A Professional Press Publication

Professional

JULY 1992

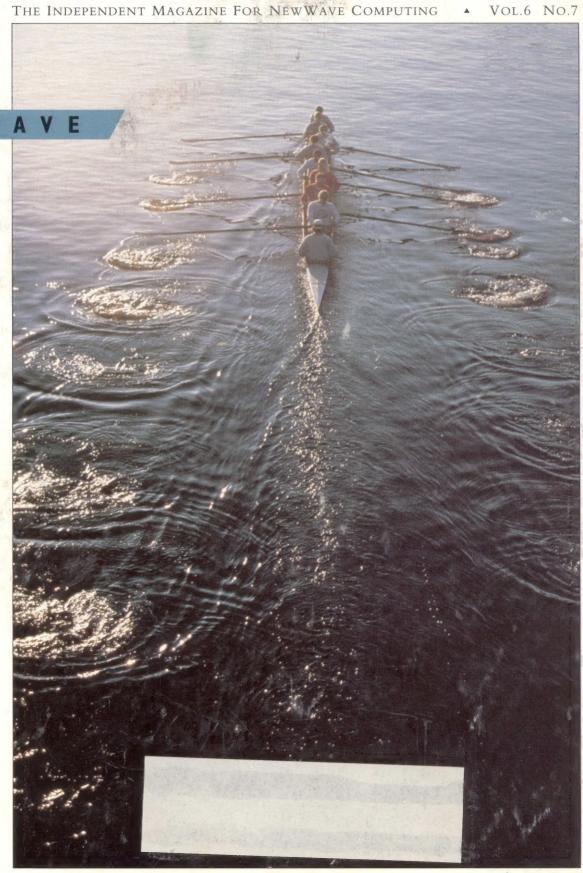
NEW WA

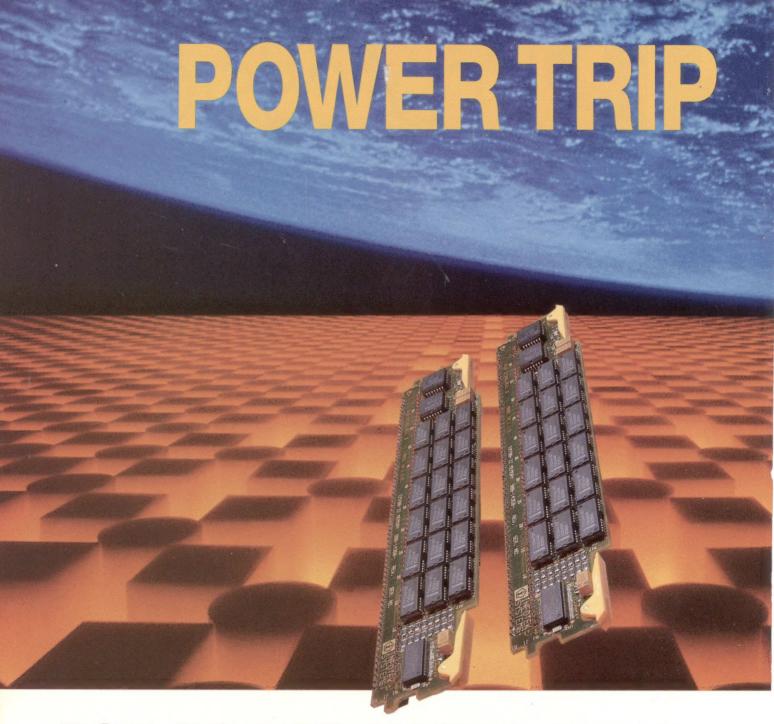
Workgroup Computing

- New Inroads
 For Image
 Management
- ► Where Is HP's NewWave Office Headed Now?

SPECIAL REPORT: WORKSTATIONS

- Solid Modeling
 Leads To Solid Sales
- From The Lab: A Sweet Suite From Clarity





FOR POWER USERS ONLY!

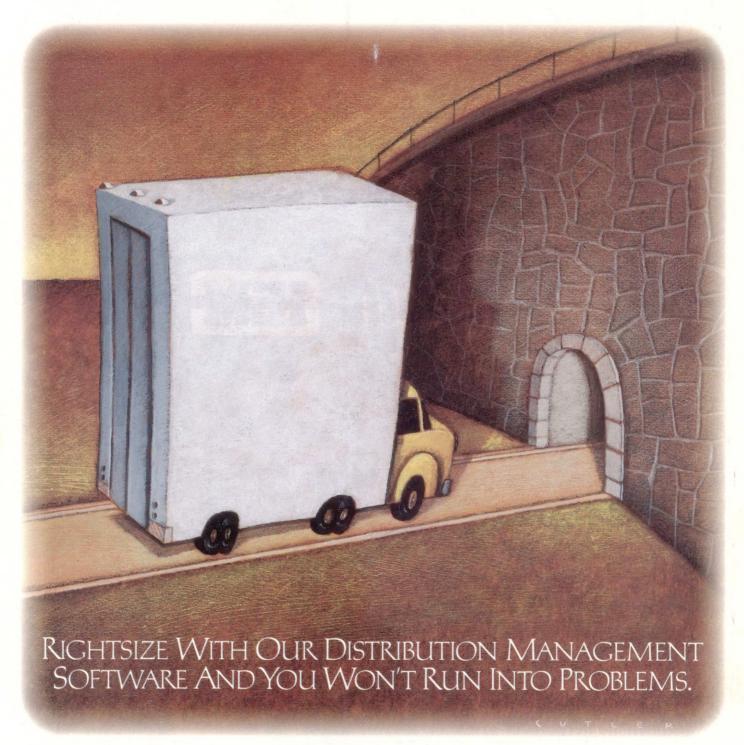
Introducing 64 MB Memory Modules for HP Apollo Series 700.

- More Memory For Less Money
- Up to 384 MB On-Line RAM
- 100% HP Apollo Compatible
- Lifetime Warranty

If your workstation isn't working up to its full potential, neither are you—its efficiency is your productivity. With our new 64 MB memory modules in your workstation, you can be drawing conclusions from your results while others are still waiting for theirs.

Call Infotek Systems for our complete line of enhancements—especially designed for power users like you.





The software you choose for distribution management is critical to your success. Pick one that doesn't measure up to your needs and rightsizing can soon go wrong.

Lawson is experienced in providing total solutions for distribution management. We design software to

meet today's critical business needs, like maintaining optimum levels of customer service and inventory. And we build in flexibility because we know, down the road, your needs can change significantly.

Our distribution management software is available for HP 9000 and other UNIX-based systems. We also have software for human resources, accounting and retail management. For case histories of com-

panies that have successfully taken the road to rightsizing with Lawson software, call **1-800-477-1357**, ext. **803**.

SOFTWARE FOR HP9000

complete the picture

with III

IEM manufactures the largest line of third-party peripherals for Hewlett-Packard computers. Since 1979, we have been designing products specifically for HP 1000, 3000, and 9000 machines.

With solutions including tape backup products, optical disk drives, memory expansion products, and winchesters, IEM is the final piece for your computing puzzle.

IEM, Inc. • P.O. Box 1889 Fort Collins, Colorado 80522 USA (303) 221-3005 • (800) 321-4671 FAX: (303) 221-1909

IEM (UK) • Colorado House Cromwell Park, Banbury Road Chipping Norton, Oxfordshire OX7 5SR (44) 0608 645000 • FAX: (44) 0608 645155

1992 Anis, Inc. F5.592





1 T E N T S

VOL.6, NO.7

24

Promises To Keep

By Paula Jacobs

When HP's NewWave Office was first introduced, it presented a radically different and innovative approach to office computing. Now that other vendors have joined the ranks, that claim is no longer valid. Where is NewWave Office heading? And, what is HP doing with the product?

32

Image Is (Nearly) Everything

By Bill Sharp

Once a niche technology, imaging has come a long way in a very short time. With an annual growth rate estimated at 50 to 60 percent, it is permeating new markets and providing users with a variety of competitive advantages.

42

SPECIAL REPORT: WORKSTATIONS

Optimal Design

By Paul Benson

With workstation technology and price/performance accelerating at such a rapid rate, the associated softare is often overlooked. Here's a look at how Eaton Corp.'s Aircraft Controls Division uses solid modeling to keep pace in its highly-competitive, global market.



FROM THE LAB

Sweet Suite

Performance Probe

Professional Professional

COLUMNS

Managing Your HP 3000: A New
Paradigm For HP 3000 Customers
By John P. Burke
"This Is Not Your Father's Hewlett-
Packard."
Objectively Speaking: Recyclable
Software?
By Richard Riehle
Some Questions Arise When Considering Reuse
Of Software In OOP

And Another Thing: Not-So-Great Expectations

by Gordon Michaellan	
Computers Don't Kill Productivity—	
People Do	

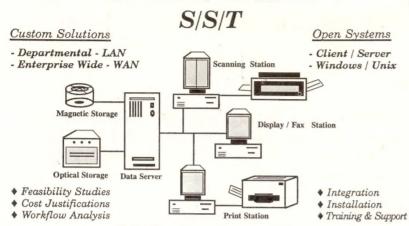
DEPARTMENTS

Editorial	8
Industry Watch	10
News & Trends	14
Product Watch	20
Advertiser Information	64
New Products	70
Product Showcase	75
Career Opportunities	78
Software Directory	78
Advertiser Index	79

Cover Photo by Marc Romanelli The Image Bank

IMAGING SYSTEMS INTEGRATION

YOUR PARTNER FOR SUCCESS



S/S/T - Imaging Division SERVING ALL YOUR OFFICE AUTOMATION NEEDS

SOFTWARE SYSTEMS TECHNOLOGY, Inc.

305 Broadway • New York, NY 10007 • 212/964-9600

CIRCLE 275 ON READER CARD



- RJE (2780/3780) for EDI Communications
- 3270 Device Polling for ATMs & POS
- IBM Bisync Communications

The Synchronous Network Engine is a general purpose bisynchronous communications product for use in the MPE and UNIX environments. It is used to perform file transfers in conjunction with most popular EDI applications on all major Value Added Networks as well as in applications accessing POS terminals. ATMs and credit card authorization services.

The Engine connects to ATP/DTC/MUX ports on HP 3000 or HP 9000 systems and supports a variety of synchronous modems and auto-dialers. No other HP hardware or software is required.



TELAMON (800) 622-0630 • (916) 622-0630 • (916) 622-0738 FAX 492 Ninth Street, Suite 310 • Oakland, CA 94607-4098

CIRCLE 234 ON READER CARD



Publisher: Carl B. Marbach Editorial Director: R.D. Mallery Associate Publisher: Leslie Ringe

Editorial

MANAGING EDITOR Grant Evans ASSOCIATE EDITOR Andrea J. Zavod SENIOR TECHNICAL EDITOR David B. Miller TECHNICAL EDITOR Bill Sharp APOLLO EDITOR Fred Mallett FIELD SERVICE EDITOR Ron Levine HP 3000 EDITOR John P. Burke INTERNATIONAL EDITOR Marsha Johnston NETWORKING EDITOR Tim Cahoon PC EDITOR Miles B. Kehoe SOFTWARE ENGINEERING EDITOR Richard Riehle EDITORIAL ASSISTANT Stephen G. McDowell CONTRIBUTORS Paul Benson, Paula Jacobs, Gordon McLachlan

DP Laboratory and Testing Center

MANAGER David B. Miller TECHNICAL EDITORS Marty Levine, Charlie Simpson ASSISTANT LAB MANAGER Anne Schrauger REVIEW EDITORS John P. Burke, Tom Davis, Jerry Fink, Tony Fiorito, Miles B. Kehoe, Joel Martin, Michele Petrovsky, Barry Sobel MIS SOFTWARE MANAGER Bonnie Auclair

Design & Production

ART DIRECTOR Al Feuerstein DESIGN/PRODUCTION MANAGER Jean Lait TYPE/PRODUCTION COORD. MaryEllen Coccimiglio ADVERTISING TRAFFIC MANAGER Lori Goodson ADVERTISING TRAFFIC ASSISTANT Teri Campbell ART DIRECTOR, PROMOTIONS/BOOKS Tim Kraft GRAPHIC DESIGNERS Mike Cousart, Thomas Owen, Sue Ann Rainey, Jack Rotoli

Circulation

CIRCULATION DIRECTOR Carrie Eisenhandler **FULFILLMENT MANAGER** Marjorie Pitrone CIRCULATION AUDIT MANAGER Rebecca Schaeffer DATABASE MANAGER Phyllis Chandler

Marketing

SENIOR PROMOTION WRITERS James Jordan, Lori

TRADE SHOW MANAGER Peg Schmidt

PROFESSIONAL PRESS, INC.

PRESIDENT Carl B. Marbach VICE PRESIDENT R.D. Mallery VICE PRESIDENT Peg Leiby VICE PRESIDENT Helen B. Marbach DIRECTOR OF SALES Jeffrey Berman CORPORATE DIRECTOR OF MARKETING Mary Wardlaw EXECUTIVE EDITOR Linda DiBiasio EXECUTIVE DESIGN DIRECTOR Leslie A. Caruso CHIEF FINANCIAL OFFICER Thomas C. Breslin HUMAN RESOURCES MANAGER Mary Steigerwalt

For more information on how to contact your sales representative, see page 79. For subscription information and address changes, call (215) 957-4269. Editorial, advertising sales and executive offices at 101 Witmer Rd., Horsham, PA 19044 (215) 957-1500 Corporate FAX (215) 957-1050. To reach staff listed on masthead via UUNET, send MAIL to: LAST NAME@proeast.propress.com

HP PROFESSIONAL ISSN 0986145X is published monthly by Professional Press, Inc., 101 Witmer Rd., Horsham, PA 19044. Subscriptions are complimentary for qualified U.S. and Canadian sites. Single copy price, including postage \$4. One year subscription rate: \$30 U.S. and Canada; \$60 foreign. All orders must be prepaid. For reprints, contact Reprint Management Services, 505 E. Airport Rd., Lancaster, PA 17601; (717) 560-2001, Fax (717) 560-2023. Second Class postage paid at Horsham, PA 19044, and additional mailing offices. POSTMAS-TER: Send all correspondence and address changes to HP PROFESSIONAL, P.O. 616, 101 Witmer Rd., Horsham, PA 19044. COPYRIGHT © 1992 by Professional Press, Inc. All rights reserved. No part of this publication may be reproduced in any form without written permission from the publisher. All submitted manuscripts, photographs and/or artwork are sent to Professional Press, Inc. at the sole risk of the sender. Neither Professional Press, Inc. nor HP PROFESSIONAL magazine are responsible for any loss or damage. HP PROFESSIONAL is an independent journal not affiliated with Hewlett-Packard Company. HP and Hewlett-Packard are registered trademarks and HP PROFESSIONAL is a trademark of Hewlett-Packard Company.

Tired of looking for the data you need?

Now with SUPERDEX*/SuperSELECT, you get only what you ask for... FAST.

SuperSELECT runs in front of any existing program that executes a serial read to intercept and replace the serial read with a directed SUPERDEX read — with no program changes to the existing software.

Supersite

SUPERDEX

A normal serial read report can run for hours, as opposed to **minutes or seconds** using SuperSELECT. That's because SuperSELECT "pre-qualifies" the records your program would have qualified itself, allowing SuperSELECT to read only the qualified records instead of serially reading the entire dataset. All that SuperSELECT requires is the name of your dataset(s), SUPERDEX path(s) and argument(s)... that's all ittakes. SuperSELECT does the rest with lightning speed.

So why spend wasted hours and resources on reports that run via a serial read, when you can access the exact records you need in seconds. Call 1-800-ASK-BRAD for the Database Specialist nearest you, and discover the speed and power of SUPERDEX/SuperSELECT for yourself.

CIRCLE 108 ON READER CARD

Regional offices:

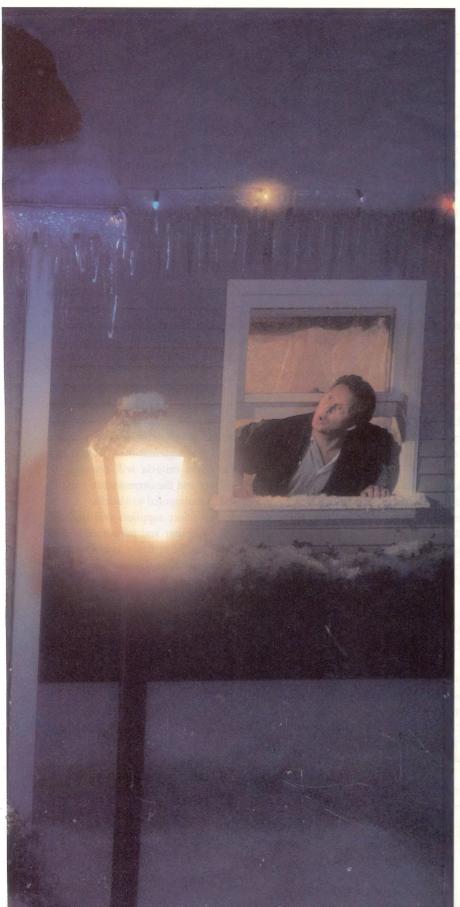
Houston, TX San Jose, CA United Kingdom (713) 621-2808 (408) 879-1630 (44) 905-7954444



If you think your HP3000 isn't the best unexpected changes, think again.



insurance against



Workers' compensation is a fiercely competitive part of the insurance business. Changes occur virtually overnight. But it has its rewards. At California Compensation their revenues grew from \$22 million in 1988 to \$248 million in 1991.

To achieve this success, they had to respond much faster to customer and government demands. And prepare for the kind of problems that may befall at any time. Which meant refining their business processes.

They moved all their mission-critical applications from mainframes to HP 3000s. And installed HP's ALLBASE/SQL relational database, a software environment flexible enough to manage change. Quickly, easily and economically. Now, with 500 employees on-line, they can process claims much more quickly and accurately, avoiding late-payment penalties. And develop new applications in-house at the same time.

As business grows, their HP 3000s will grow with them. Keeping their computer system on solid ground every inch of the way. If that's the kind of investment protection you're looking for, call 1-800-637-7740, Ext. 3162. We'll send you more information about forward-looking companies like California Compensation.

You'll see that your HP 3000 is even more of a sure thing today than the day you bought it.

Think again.



The Quest For Quality



By Grant Evans

The other evening, I stood outside my father-in-law's barn as my brother-in-law hitched a sickle bar mower to a shiny red 1955 Farmall Cub tractor. The grass along the road had grown waist-high and it needed cutting. As he wrestled with the device, I couldn't help but admire the soft, happy purr of the idling Farmall's engine.

I commented to my father-in-law that I never before noticed how quiet and *new* that old tractor sounded (It's

older than I am, yet sounds better than my 1988 Subaru.). He responded, "Of course — back then they made things to *last.*" He has another tractor — much larger — of the same vintage. I think it needed a new tire a few years ago.

The tractor engine got me thinking. It's hard not to be exposed to American industry's new-found obsession with quality. It's everywhere. A few weeks ago, I saw a PBS documentary that dealt with nothing but quality — specifically, how German companies have come to be so renowned for it. On this side of the ocean, many companies have incorporated the word "quality" into their slogans, others repeat it over and over in their ads.

How many of us haven't heard of the Malcolm Baldrige National Quality Award? A few years ago, I attended the Baldrige ceremony where President Bush presented the award to IBM's Rochester division — which makes the AS/400. Within days of the ceremony, recipients were displaying Baldrige symbols in their ads. IBM went so far as to slap navy blue stripes emblazoned with Baldrige emblems on AS/400 cabinets. We have two such boxes in our lab here at Professional Press.

It was shortly after the 1991 award ceremony that I started wondering about this compulsive quest for quality. Was it genuine? Was it positive? Sure, quality's great — I'm all for it. It's just that when winning such an award is driven purely by marketing objectives, it seems somewhat detached from the ultimate judges of quality — the consumers. A cottage industry has sprouted from the quality obsession. These days, you can hire someone to coach your company on how to be in the running for a Baldrige Award — a sherpa to lead you to the high peaks of marketing nirvana. In some corners, the quest appears to have strayed from the intended path.

But what about the consumer? Rather than spending hundreds of thousands of dollars trying to conform to voluminous

Baldrige guidelines, why not pick up the phone, give some customers a jingle and listen to what they have to say?

According to the recent International Quality Study, a joint project by Ernst & Young and the American Quality Foundation, American computer company executives are facing a considerable challenge if their aggressive quality objectives are to be met. Changes in new product design, manufacturing, customer relations and even executive compensation will require a mind-set overhaul at nearly every level of the organization.

Computer company brass surveyed predict increased emphasis on customer input in the creation and design of new products — through customer visits, feedback and benchmarking. This new emphasis is attributable largely to increasing customer sophistication about technology. Although such a grass-roots approach to quality entails considerable re-tooling for many U.S. companies, it is nothing new to Japan and Germany (the dreaded "global competition") who traditionally have had bigger ears for their customers.

But while placing more emphasis on customer input will be crucial, there is increased pressure for computer companies to boost performance on other fronts — all at once. For example, senior management performance has traditionally been gauged on individual achievement and the organization's profitability. The study found that while these criteria will remain, the individual's ability as a team player and the organization's quality performance will also be used as managerial yardsticks.

Similarly, the criteria used to select suppliers will undergo some modification. Although computer and peripheral manufacturers will not de-emphasize the price factor when evaluating suppliers, in the future they will pay more attention to product quality and reliable delivery.

Sheer product performance will remain an important strategy, but greater importance will be ascribed to reliability, conformance to standards and adaptability.

And as companies strive to meet these diverse quality objectives, they can't allow the increased demands lengthen their time to market. In order to gain that much-sought reputation for quality, a balance must be struck.

You know, the same principles probably apply to tractor manufacturers.

Dent Brane



SERIOUS ACCELERATION

33 Mhz speed for serious applications.

The TURBO-33 is a 33 Mhz accelerator card for Hewlett Packard Series 9000 computers. The card is compatible with the HP 216, 217, 220, 226, 236, 237, 310 and 320 workstations.

Programs run from 6 to over 100 times faster.

Compatible with Basic and Pascal.

The TURBO-33 is designed for the BASIC and PASCAL systems. No modifications are required for user programs.

Innovation from Newport Digital.

TURBO cards are also available at 25 Mhz and 16 Mhz. All the TURBO cards have a five year warranty.

Call Newport Digital for information on these and other innovative products.

TURBO-33 DELIVERS PERFORMANCE

Computation Type Integer Arithmetic 6 to 8
Real Arithmetic 9 to 50
Real Transcendental 32 to 293

NEWPORT DIGITAL

14731 Franklin Avenue, Suite A Tustin, California 92680 714-730-3644

FURBO 33, TURBO 25 and TURBO 16 are trademarks of Newport Digital Corporation

CIRCLE 246 ON READER CARD



INDUSTRY WATCH

Bill Sharp

Emerald Sparkles For HP

"Pssst! Yo, over here!" An urgent hoarse whisper came

to me from a dank and dark, rain-soaked alley just off the waterfront of Boston. It was shortly after 11 p.m. — dark as a politician's heart. I was on the way to my car. Office hours had been long of late, but the big project was out the door, so I was dancing along, dodging puddles and gaping craters in the quaint, brick-paved streets as I neared my vehicle. Whispers didn't interest me, so I concentrated on skipping lightly along without stubbing my toes on the pavement.

I heard the brick bat whistle past my left ear just before it struck the pavement beyond me with a thunk, rattling over to the picturesque granite curbing. The hoarse voice chuckled, and a short, grizzled fellow in a heavy gray raincoat stepped out of the alleyway. "Just getting your attention. Now let's talk business here. Wilbur's my name, and I'm selling mainframes — and selling them CHEAP."

I raised my hand in objection, about to turn away, when the man grabbed both lapels of his coat and threw it open. I was preparing to stalk away in disgust when I realized that he as wearing a pinstriped dark blue suit and the insides of his raincoat were lined with little oblong boxes taped into place. A faint hum came from his direction.

Maybe this view of the future is a slight exaggeration, but HP seems bent on driving the computer business along the path to downsized systems — step by relentless step. If you believe HP, mainframe owners today have a tough time arguing against the smaller, faster and cheaper-to-own HP PA-RISC systems in

both proprietary and open operating system flavors.

In mid-May, HP announced nine new HP 3000 and 9000 high-end, multi-processor commercial systems, officially dubbed HP Corporate Business Systems, but code-named Emerald. According to HP, the computers, HP's first that reach solidly into the mainframe class, exceed the performance of it's previous high-end systems by better than 60 percent, and exceed the performance of 90 percent of installed IBM mainframes. HP's new topend system, the HP 3000 Model 992/400, offers performance equal to that of IBM's 3090-600J, Big Blue's largest water-cooled mainframe, says HP.

HP's new systems use less floor space — as little as 1/20th the floor space required by a traditional water-cooled computing monster and its associated cabinetry. The new 890 and 990 models are roughly the size of your refrigerator, though they cost a tad more than the average icebox. Power required by the sys-

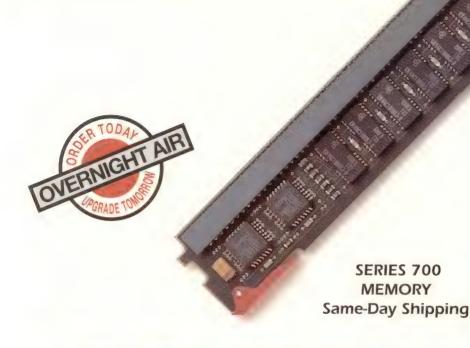
tems is also *much* less than traditional mainframes — something like that used by three hair dryers. Three-year cost of ownership for IBM's ES/9000 Model 740 is noted as \$15 million by HP, compared to its own comparably configured system with a three-year cost of ownership of \$2.7 million.

Oddly, even while HP is pitching its new systems as a downsizing alternative for firms using large IBM systems today, its first sales of the mainframe models are to existing HP users who see savings they can make by moving from minicomputers to mainframes.

FMC Corp. (Chicago) expects to save a cool \$1 million over the next five years by moving to a hot new HP 3000/992/200 this summer. Rather than running separate HP minicomputers in five cities, FMC will combine the systems from two offices in Pennsylvania and one each in Florida, Arkansas and Mississippi onto one large system in Dallas.

"In the past, HP didn't have enough







Available now from Newport Digital.

We deliver the quality and service you expect from the leader in HP workstation enhancements. Our complete line of TURBO cards and memory products is ready to ship from stock. Order today. Upgrade your system tomorow!

Superior quality by design.

Every product we make is rigorously tested and guaranteed to meet or beat HP quality... and each is backed with our unconditional lifetime warranty.

Remarkable value guaranteed.

Evaluate any of our memory products in your workstation for 30 days. If you're not completely satisfied, return it without obligation.

CALL TODAY for complete information or to place an order for these and other innovative products from Newport Digital.



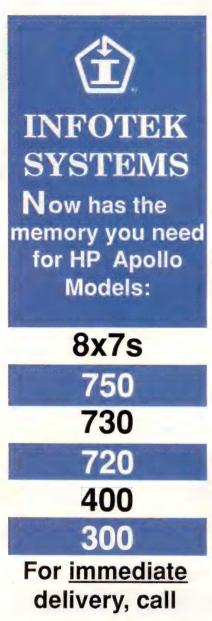
Comprehensive Selection

HP Series 9000	MB	1 2	4	8	12	16	32
HP-200/310/320							
HP-319			-	•			
HP-330/350/370					•		
HP-332							
HP-340			•		, ,		
HP-345/375/380	4						•
HP-360			•				
HP-362			•	•			
HP-382	-						
HP-400/425/433			•	-		•	•
HP-425E			•			•	
HP-700RX	1			•			
HP-720/730/750							

NEWPORT DIGITAL 1-800-383-3642

14731 Franklin Avenue, Suite A Tustin, California 92680 (714) 730-3644

CIRCLE 488 ON READER CARD



1 (800) 828-0414

For the highest quality, best service and foremost technical expertise,

INFOTEK **SYSTEMS**

is the only name you need to know

Infotek Systems

1120 Spring Street Klamath Falls, OR 97601 Tel: 503/883-3900 Fax: 503/883-8042

CIRCLE 135 ON READER CARD

power on the high end to accommodate our needs," says Bill Nadzak, HP program manager for FMC Corp. "Now, with the larger HP systems on the high end, we can have five divisions running over a WAN connected to one Model 992 at our Corporate Computing Center in Dallas. What prompted the whole thing is that some of our divisions wanted to upgrade their systems, so we looked at the new boxes and ran the numbers. We will save a significant amount of money."

But HP expects downsizing onto its systems at all levels to continue feeding its computer sales growth. Foxboro Co. (Foxboro, MA) began moving applications off mainframes several years ago and onto HP minicomputers, reducing MIS staffing from 225 people in 1987 to its current staff of 115, while cutting order processing time dramatically and saving \$10 million per year in reduced MIS costs.

3M, of St. Paul, MN, already a big user of HP systems with a network of more than 160 HP 3000 systems nationwide, plans to cut operating costs 20 percent by consolidating seven management systems onto three high-end HP 3000 systems, including an HP Corporate Business System. Liberty Bancorp Inc., in Oklahoma City and Tulsa, will combine its business systems on two HP 9000 Corporate Business Servers, an 890/100 and an 890/200, this fall.

Savings such as those experienced or anticipated by these HP customers are fueling HP's strong growth in high-end computers at a time when other computer companies are slogging through a protracted sales slump. Market forces are pinching firms worldwide, making them look for savings wherever they can be found. This is why offering mainframe cost reductions of up to 80 percent sounds very exciting. HP notes that more than 100 IBM customers moved applications to HP business systems during the past year. Meanwhile, Dataquest, the San Jose, CA-based market research firm, notes that more than 46 percent of the mainframe sites it surveyed during 1991 are currently downsizing.

Senior analyst Carolyn Osgood of International Data Corp (IDC), of Framingham, MA, expects HP's Corporate Business Systems to "make some inroads into the IBM 43xx business. HP is going after the low-hanging fruit - older, lowend accounts where users are disillusioned with IBM and are looking for more open systems than IBM provides now. HP has stronger open systems in both its product lines than IBM."

But while she credits HP with increasing momentum in its downsizing initiative, Osgood points out that IBM has a downsizing program of its own for customers that want to move down to the AS/400, a highly successful proprietary system with a large installed base of generally satisfied customers. To displace significant market share from IBM's mainframe business, she says, HP will have to better understand IBM customers, and the tools, service and support products that are unique to their market.

HP 3000 Corporate Business Systems are slated for availability in August. The five new models range from the Model 990/100, with one CPU, 192 MB of memory and performance of about 114 transactions per second (TPS) for \$365,000 to the Model 992/400, with four CPUs, 256 MB of memory and performance of about 420 TPS for \$925,000. All models offer memory expandable to more than 2 GB, up to 690 GB of disk storage, 112 I/O slots, MPE/iX operating system and support for up to 2,300 users.

HP 9000 Corporate Business Servers are scheduled to be available in October. These four models include the HP 9000 Model 890S/1, S/2, S/3 and S/4, ranging in price from \$335,000 to \$650,000, Each system comes with HP-UX operating system and 128 MB of memory, and can handle up to 4,500 users.

Sound like great fun? Got room for a fridge-sized box? Go ahead and talk to Wilbur, but check in with HP as well. If HP sales people don't hang around in alleys these days, it's probably because they don't need to.



Kingston's Ahead
In Hewlett-Packard Memory

9000 300 & 400

- 345
- 400dl
- 375
- 400s
- 380
- 400t
- 425e
- 425s425t
- 433s

Kingston Technology keeps you ahead with memory for the latest HP workstations. Kingston manufactures upgrades that are built to give you the best performance and reliability.

Kingston provides you with:

- Lifetime warranty
- 100% compatibility
- Individual testing of each module
- Free technical support
- 24 hour exchange policy

Kingston's quality upgrades meet or exceed all system manufacturers' specifications. For more information on how to get ahead with Kingston upgrades, call us at:

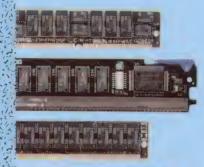
800-835-2545

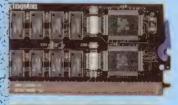
Ph. 714-435-2667 Fax 714-435-2618 East Coast 516-673-6300

Manufactured by



17600 Newhope Street Fountain Valley, CA 92708







9000 700 & 8x7

- 700/RX
- 807
- 705
- 817
- 710
- 827
- 720
- 837
- 730750
- 847857
- - 867
 - 877

3000 9x7 & 9x7LX

- 937
- 917LX
- 947
- 927LX
- 957
- 937LX
- 967
- 947LX
- 977
- 957LX967LX
- CIRCLE 281 ON READER CARD



HP Downsizes The Disk Drive

World's First 1.3-inch Disk Drive Offers Savings Over Solid-State Memory

P continued its recent flurry of smaller/cheap-er/new-and-improved hardware roll-outs last month with the introduction of the Kittyhawk Personal Storage Module (PSM), the industry's first 1.3-inch disk drive.

The matchbox-sized Kittyhawk PSM, which holds up to 21.4 MB of information. combines the attractive cost of disk drive technology with the removability, small size and shock resistance of solid state memory. According to HP, the PSM will find a broad range of applications including palmtop, pen-based and subnotebook computers; printers; fax machines; medical equipment; and communications and digital imaging devices. Commercial uses could include video game cartridges, digital copiers and on-board voice/imaging mail for cellular phones.

Unlike the 2.5-inch and 1.8-inch drives in use today, the Kittyhawk PSM also provides a degree of ruggedness typically associated with solid-state devices. HP employs a



The HP Kittyhawk PSM (shown here in actual size) offers a number of advantages over existing small disk drives.

technology which it likens to an automobile's air bag collision detector to sense impending impact and revert the drive — enabling Kittyhawk to withstand 10 times the shock of previous small drives.

According to Bruce Spenner, GM of HP's Disk Memory Division, the Kittyhawk PSM represents a number of economies over existing small-form disk drives. AT&T Microelectronics helped reduce the number of integrated circuits in the module to seven — as opposed to the 20 or 30 usually used in today's 1.8-in. and 2.5-in. drives. The savings in space, weight and power translate into a lower costper-megabyte than conventional solid-state memory. HP estimates that 20 MB of solid state memory has an OEM price of \$1,000, or \$50 per MB. The HP PSM's initial cost runs about \$12 per MB.

The Kittyhawk PSM features an 18-millisecond average seek time and supports active, idle, standby and sleep modes.

In addition to AT&T Microelectronics, HP tapped Citizen Watch to provide microassembly and automated manufacturing. According to Spenner, the storage device can't be manufactured like a conventional drive because it contains components that are too small to be manipulated by human hands. "The fact the Citizen has the technology to drive screws you can't even see with the naked eve speaks to its ability to overcome this issue," Spenner notes.

The unit's custom disk drive controller was manufactured by Cirrus Logic.

Single-unit OEM evaluation units are available today for \$450. HP says that volume OEM pricing for the Kittyhawk PSM should be around \$250, and production units are slated to ship this fall. — Grant Evans, Managing Editor

Dataram makes computer memory. But we deliver customer satisfaction.



We go out of our way to help you. By offering the highest quality memory to let you unlock all the power and performance your HP 9000 340-380, 400 and 700 Series, and Apollo DN2500-5500 workstations have to offer.

And by delivering the very best, quickest response when you do business with us. Not just in how we design and make HP/Apollo upgrades for you, but in the way we price, sell and—after the sale—deliver and support them.

We can put new Dataram boards into your hands within 24 hours. Anywhere in the country.

Boards from 1MB up to 32MB, available at prices that beat HP by 30% or more. All fully HP-compatible and built with the same uncompromising quality.

No matter if you're already a Dataram customer or coming to us for the first time, we stand squarely behind our upgrades—and you.

Now and in the future, for as long as your computer exists and operates, we deliver on our:

- · Lifetime guarantee
- Free trial period
- Express spares
- · Service-call expense reimbursement
- · Dial-in assistance
- Trade in/up
- Technical support



As the world's leading supplier of memory, we produce add-ins for HP/Apollo, DEC, Sun, Silicon Graphics, IBM and DG computers.

The right products, at the right price. Right away.

So call **1-800-DATARAM** today and ask us to quote on the memory you're planning to buy.





P.O. Box 7528, Princeton, NJ 08543-7528

Satisfying our customers sets us apart.

CIRCLE 240 ON READER CARD

Unison, Tymlabs Plan Merger

Companies Sign Letter Of Intent, Plan To Offer Integrated Product Line.

U nison Software and Tymlabs Corp., two prominent suppliers of software for the HP 3000 and 9000 markets, recently announced that they had reached an agreement in principle to merge their worldwide operations.

Unison (Mountain View, CA) and Tymlabs (Austin, TX) have yet to decide on a name for the combined entity, but Tymlabs CEO Morgan Jones, who will head the combined company's marketing efforts, tells *HP Professional* that the companies' respective

headquarters are expected to remain open, and that operations will be consolidated in the U.K. At press time, certain other issues remained unresolved.

The merger is expected to affect thousands of MPE and HP-UX users in the U.S. and abroad. Jones notes that the new company will enjoy substantial development resources and that the combination of data center management and connectivity products for the HP 3000 and 9000 platforms will put the company in a unique position

to serve its merged customer base. "As we integrate our products into a cohesive set of data center tools, we plan to pay careful attention to our existing customers by providing cost-effective and logical upgrade paths," Jones says.

Unison President and CEO Don Lee also anticipates integration of the companies' products, and foresees an acceleration in plans to port products to HP-UX.

Unison is best known for its MAESTRO batch job scheduler, SpoolMate report distribution software and media management products. Last year, the company L.A.-based Business Systems International and KLA/Express.

Founded in 1980, Tymlabs is notable for its BackPack backup software for MPE V and MPE/iX systems, as well as for its Session family of PC-to-host connectivity products. The Session line is sold by HP under the AdvanceLink label.

Tymlabs recently announced a business agreement with Cognos, under which Cognos will license Tymlabs to incorporate features from Cognos' QUIZ software into Tymlabs PDQ product. In addition, the companies announced that they agreed to drop the pending copyright infringement lawsuits between them without any admission of liability.

HP "Welcomes Back" Classic Support Customers

New Promotion Designed To Lure MPE V Customers Back To HP Support

n an effort to encourage MPE V customers who have discontinued their hardware and software support to reinstate their contracts, HP has initiated an incentive-laden "Welcome Back Program."

Under the program, which runs from July 1 to December 31, 1992, customers can sign up for hardware support, software support, or both.

On the software side, customers will receive MPE V release 2P. In addition, HP will waive the set-up support charge (equivalent to 18 months of HP BasicLine) if the customer: 1) signs a one-year support contract; 2) cancelled support prior to July 1, 1992; 3) demonstrates validly-licensed HP proprietary software through the appropriate certificates or proof of license, and; 4) submits the HP Product Software Record Sheet to provide a record of software to be updated prior to shipment.

MPE V customers who have dropped hardware support in the past will also be encouraged to resign with HP. For those customers who opt to reinstate HP service with a one-year contract, HP will waive the inspection fee to verify the system's operating condition (the inspection will still take place).

Dial-A-Server

HP Speeds Up Delivery Of Low-End HP-UX With "QuickShip/800" Program

n order to expedite the shipping of its entry-level HP 9000 Series 800 business servers, HP has started a new program which enables customers, VARs and distributors to order systems via a toll-free phone call.

Dubbed QuickShip/800, the program promises to deliver a pre-configured system to the customer in less than seven days after the receipt of the order. By late in the year, HP plans to cut the delivery time to three days.

To ensure the rapid delivery, HP has assembling the pre-configured systems, or "bundles," in advance. The four bundle options were determined by analyzing the most-frequently ordered product configurations for models 807S, 817S and 827S.

The bundles are optimized to support 8-, 16-, 32- or 48-user environments. The fixed menu of components for each bundle includes the Series 800 server, pre-loaded HP-UX operating system, memory, tape backup, system console, LAN and user ports. In addition to the bundled hardware and software, customers a year of hardware and software technical support services.

QuickShip/800 bundles range in price from \$17,977 for the 8-user Model 807S with 16 MB of main memory, 677 MB of disk and 2 GB DDS backup device to \$59,743 for a Model 827S configured for 48 users with 64 MB of memory, 1.3 GB of disk and the 2 GB DDS device. The QuickShip/800 order line is (800) 637-7740.

Storage facility.

Now, you have easy access to unlimited storage options. Choose from a full line of Bering removable cartridge drives, fixed hard drives and combination subsystems. Look forward to compatibility, reliability, convenience and service. And discover why Bering is the preferred

name in peripherals for Hewlett-Packard computer users.

4mm DAT/DDS Technology ECHO Series

High Performance, High Capacity 2GB DDS Tape Cartridge Backup Sub-

system. Fast, efficient and cost effective. HP DDS compatible. SCSI or HP-IB interface.





High Performance, High Capacity Tape

Backup Subsystem. Up to 5GB on an inexpensive cartridge. SCSI or HP-IB interface.

Winchester Technology ECONOPAC II Series

High performance 80MB to 1.7GB fixed

hard drives for basic storage needs. HP-IB or SCSI interface. HP-IB drives are available with 2.0 MB FDD. (Replaces HP9153C disk drive)





Rewritable 3.5"
Magneto-Optical

OPTIPAC Series

Up to 128 MB. Rewritable, Removable 3.5-inch MO Cartridge Drive, in combination with a fixed hard drive up to 500 MB. SCSI or HP-IB interface.

Rewritable 5.25" MO Technology OPTIPAC 7600 Series

650MB to 1GB, Rewritable, Removable

5.25-inch Magneto-Optical Cartridge Drives in combination with a fixed hard drive up to 500 MB. Multifunction model also available. SCSI or HP-IB.



Bernoulli® Technology
MULTIPAC Series

Single or Dual, 44MB or 90MB
Removable Cartridge Drive

models. Available in combination with fixed hard drive. HP-IB interface.

SyQuest® Technology MEGAPAC Series

Single or Dual, 44MB or 88MB

Removable Cartridge Drives. Available in combination with fixed hard drive. SCSI or HP-IB interface.

HP 9000, 1000 and 3000 computer users - The storage options are stacked in your lavor.

BERING

Bering Industries, Inc. 246 East Hacienda Avenue Campbell, California 95008 800 237-4641 408 379-6900 fax 408 374-8309

© 1992 Bening Industries, Inc. Echo, EconoPoe II, OphPac, MultiPac and MegoPac are trademarks of Bening Industries. Other product names are trademarks of their respective owner.

CIRCLE 105 ON READER CARD

Lotus Realtime On HP RISC Workstations

HP Positions Its Workstations As Workhorses In Financial Services Market

P recently underscored its intention to provide leading-edge solutions for the financial services market by announcing the availability of Lotus Realtime on the HP Apollo 9000 Series 700 workstation family and HP 700/RX line of X terminals.

Lotus Realtime software (Lotus Development Corp., Cambridge, MA) transforms the popular Lotus 1-2-3 spreadsheet package into a high-performance, real-time analytical tool. Lotus Real-time running on HP workstations will allow users to spot market trends more quickly—making it a very useful tool for traders, analysts and portfolio managers.

To kick off their joint marketing effort, HP and Lotus demonstrated the product at the Securities Industry Association conference in New York June 29 through July 1.

According to Larry Crume, Lotus vice president of International Product Development, the combination of a real-time spreadsheet solution and the price/performance and networking capabilities of the 700 Series makes for one of the most attractive options available to the financial services market.

Lotus-Realtime version 2.1 is a clientserver-based application — allowing it to run locally with Lotus 1-2-3 in single-user environments, or in a server-based system with Realtime and 1-2-3 supporting a network of workstations and X terminals.

As of press time, pricing for Lotus Realtime for the HP workstations and X terminals was not available.

For Your Information

- KL Group (Toronto) announced the release for version 2.2 of the XRT/graph family of products for Motif, XView and OLTI X Window toolkits. XTR/Graph is a window widget and application tool that lets developers embed dynamic graphs and charts in their X windows applications. (416) 594-1026.
- Information Builders Inc. (IBI; New York) announced that its FOCUS 4GL and Enterprise Data Access (EDA)/SQL family of client-server software products will operate on HP's recently-introduced Corporate Business Systems. FOCUS and EDA/SQL for the Corporate Business Systems will be available upon release of MPE/iX 4.0 and HP-UX 9.0. (212) 736-4433.
- Servio Corp. (Alameda, CA) and HP announced that Servio has been named an HP Value-Added Business Partner. Also, Servio's GemStone object database and GeODE object development environ-

- ment will be available for the HP Apollo 9000 Series 700 PA-RISC workstation family. (510) 814-6200.
- Micro Technology Inc. (Anaheim, CA) announced its fifth consecutive year of record revenues and the opening of a Scandinavian subsidiary based in Stockholm, Sweden. (800) 999-9MTI.
- Research Systems Inc. (RSI; Boulder, CO) has been chosen as an Industrial Partner by researchers working on the Sequoia 2000 Research Project. RSI will provide IDL, a scientific analysis and visualization software environment. (303) 786-9900.
- The 1992 Scientific Computing and Automation Conference and Exposition: "The Summit for Scientific Computing" will be held October 14-16 a the Hyatt Regency, Crystal City, Washington, D.C. (408) 297-6800.
- Wesson Taylor Wells and Associates Inc. (WTW; Columbia, SC) has been engaged by the telecommunications

- facility of the United Arab Emirates to perform a strategic information systems planning project. (803) 699-5781.
- Systems Strategies Inc. (New York) announced that it has been chosen to participate in HP's Premier Solutions Provider Program. In accordance with the program, the two companies will perform joint marketing activities and HP will refer sales opportunities to Systems Strategies. (212) 967-8368.
- PROCASE Corp. (Santa Clara, CA) announced the signing of a cooperative purchase agreement with AT&T for its SMARTsystem software development and maintenance environment. (408) 727-0714
- UniPress Software Inc. (Edison, NJ) announced that Ericson's Sun XView-based CASE tools software is being made available on HP Apollo 9000 Series 700 workstations. (201) 420-5047.
- HP announced an agreement with Atria Software Inc. (Natick, MA) to provide Atria's new software configuration management system,

- ClearCase, on HP's PA-RISC-based workstations. ClearCase features version control, environment management, configuration management and policy/process control. (508) 650-1193.
- SEDASIS (Brest, France) has introduced a new line of addin memory boards for the HP Apollo 9000 Series 700 workstation line. The 8- 16- and 32-MB boards feature an ECC and come with a five-year warranty by swap. (33.-98.41.70.90).
- Frame Technology (San Jose, CA) announced that it will extend its UNIX software licensing strategy to include a personal license along with its original fixed and floating-license products. (408) 954-3964.
- HP announced that Cadre Technology (Beaverton, OR) has purchased 15 copies of HP's C++ SoftBench software development environment to be used for designing and developing portions of Cadre's TEAMWORK family of CASE products. (401) 351-5950.

THE ONLY TAPE DRIVE THAT PUTS 25GB ON A SINGLE 8MM TAPE.



Do you wish you could find a backup system with enough capacity, speed, and sophistication to backup unattended?

Could you recreate a document from scratch in the time it takes you to restore it?

FAST BACKUP, FAST RESTORE.

Introducing the CY-8500, the 8mm tape

drive that gives you up to 25 GB on a single tape. And with transfer rates of up to 90 MB per minute, backup takes less time, frees resources, and makes frequent backup simple and convenient.

And that's not all. The CY-8500 offers fast file search capability. So you get the advantages of high capacity and fast transfer rates plus the ability to locate and restore your files quickly – about 75 times faster than normal speed.

CONFIGURATION FLEXIBILITY.

The state-of-the-art liquid crystal display gives you complete drive status information. Command under execution, transfer rate,

tape remaining, and ECC are presented in a clear easy-to-read format. By offering such features as data compression – for five times the storage capacity per tape – and data encryption – giving you data access control – the CY-8500 adapts to your company's growing needs. We'll adapt to your site requirements

too, with rack mounting options and cable lengths of up to 80 feet.

PROVEN TECHNOLOGY.

Best of all, the CY-8500 offers peace of mind. 8mm helical scan technology, designed for data recording, gives you demonstrated performance and reliability. Not an adaptation of an audio recording format.

The CY-8500 is part of a complete family of tape backup products that range in capacity from the 150 MB ¼" cartridge streamer to the 2 TB cartridge handling system. All backed up by our in-house technical support group and 12-month warranty. For more information on how you can enjoy the best value in tape backup, call today at 804/873-9000.

CYBERNETICS

TRUE "PLUG-AND-PLAY" COMPATIBILITY WITH:

Alliant **DEC Unibus** Alpha Micro Gould Altos Apollo **IBM AS/400 IBM Mainframe** Arix AT&T IBM RISC/6000 Basic-4 **IBM RT** Concurrent **IBM S/38** Convergent Macintosh **DataGeneral** McDonnell **DEC 3100** Douglas **DEC BI-Bus** NCR DEC HSC Novell **DEC Q-Bus** DEC TU/TA81 PS/2

PC 386/ix PC MS-DOS PC Xenix/Unix Pertec Plexus Prime Pyramid Sequent Silicon Graphics Sun Unisys Wang and more

Workstation-Based Project Management



Digital Tools
Helps You Cover
All The Bases
With Its AutoPLAN
Project Management
Software

Who's on first? What's on second? Where's third? And. how much do we owe the guy behind the plate? You may not manage a baseball team, but you may be the project manager at your company, responsible for knowing the status of every company or department project. Digital Tools' (Cupertino, CA) AutoPLAN may be the right project management software to help you organize your group's projects and keep you up to date on the status of every player at every stage of the game.

This interactive project scheduling and control package is for UNIX-based systems, including the HP 9000 Series 300, 400 and 700 workstations running HP-UX and Motif. To promote open systems, AutoPLAN is designed for distributed processing environments to provide office

automation on networked workstations.

AutoPLAN is best suited for those who need to plan, coordinate, monitor and control the progress of several activities that together make up one project. Incorporating AutoPLAN into your work schedule will help you organize a project's many tasks and resources. You can check the relationships between each variable of the project and propose "what-if" scenarios to help gauge, or predict the costs, gross production, time commitment, resources, and

To capture the companywide involvement and status of a project, you can also access information from sales, marketing, development and manufacturing. The generated reports can then encompass the cost, time and resources from all elements of the project.

AutoPLAN's GUI masks the complexity of project scheduling. AutoPLAN employs a graphically interactive canvas drawing system that allows you to create projects free form. The GUI is mouse-driven, so you can drag and drop to create, link and move tasks.

The AutoPLAN upgrade for the HP 9000/700 series now incorporates subproject features that allows you to identify a task in AutoPLAN as a summary or parent task. This parent task can be broken down to lower levels of detail or child tasks, and then linked to other projects lo-

cated on the program's project path.

Duration and finish dates, as well as resource and cost information, can subsequently be calculated for the parent task based on the sum total of the child task. Because the subproject can be blown up into child tasks, the rest of your team then can know the actual costs, dates and resources required for each portion of the project.

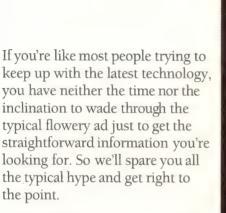
A good manager will see to it that the players know what the situation is, and getting it down on paper will increase their understanding. AutoPLAN provides you with presentation quality charts and custom reports for generation on PostScript printers and HP-GL plotters. It also offers plotter or printer output to screen so you can review the graphics before printing.

The software is \$2,995 per license for a floating license and \$1,495 for a node-locked license. — Andrea Zavod, Associate Editor

Digital Tools

18900 Stevens Creek Blvd. Cupertino, CA 95014 (408) 366-6920 (408) 446-2140 FAX

Sign The Hype.



Here at MESA Technology, 20 years of experience and a good amount of common sense have taught us that when it comes to purchasing subsystems, the two most important considerations are reliability and technical support. And to be very direct, no one outperforms us in these two critical areas. Period. But that's only the beginning.

No Nonsense Guarantee

- Five year warranty on all magnetic disk subsystems
- Twenty-four hour swap out of any component that fails during warranty period

Support

- Toll-free hotline for installation and technical support
- Fast, accurate answers from friendly people whose goal is to make your life easier



Reliability

- Our subsystems feature the highly reliable Hewlett-Packard disk drives
- All HP 3 1/2" and 5 1/4" drives have a five year warranty and 150,000 hour MTBF rating



8990 Old Annapolis Road Columbia MD 21045-2179

Boston New York Milford Philadelphia Richmond

Authorized Hewlett-Packard Distributor

800/888-0567

The following are trademarks of their respective companies: DEC of Digital Equipment Corporation; IBM of International Business Machines; Sun of Sun Microsystems, Inc.



Catalyst Program

Compatibility

- All subsystems are compatible with HP, IBM RS/6000, Sun and DEC workstations
- With SCSI 1 and 2 interfaces, they're also compatible with the majority of desktop workstations, including IBM's AT Bus and Micro Channel

Configurations

- Non-removable configurations in desktop, zero footprint, rack mount and freestanding floor models
- Removable configurations in desktop and rack mount models with shock-mounted canisters

Tape And Optical

- High performance tape and optical solutions are available with the highly reliable Hewlett-Packard line
- Choose from 3 1/2" and 5 1/4" Digital Audio Tape (DAT)
- Multi-function HP optical disk drives combine write-once and rewritable capabilities in the same drive
- 8mm Exabyte cartridge tape drives are also offered

CIRCLE 493 ON READER CARD

Completing The Cycle



Tektronixs' Phaser II
PXe Printer And
4511A Interface
Let You Share
The Wealth
Of Information

So you have a 64-color display of your latest brainstorm glowing on your terminal's screen. Looks good, too—plenty of colors, multiple fonts, some calculations and a pie chart. However, you need to show this and 12 other screens, along with 100 pages of text, to 18 clients in a presentation tomorrow morning halfway across the country.

Tektronix (Wilsonville, OR) helps complete the presentation cycle with its Phaser II PXe thermal wax transfer color printer and 4511A Ethernet interface unit. The printer and the interface takes your presentation ideas off the desktop and puts them into the hands of those who need it.

Katherine Melcher, Tektronix marketing communications program manager, says that the 4511A replaces the larger, more awkward 4511, which was the size of a PC. "Any group, especially in the engineering or scientific environment, doing finite element analysis or image presentations can use this system," maintains Melcher.

The 4511A is about the size of a modem, attaches anywhere along your Ethernet network and lets you take advantage of TCP/IP protocols on your Ethernet network. Any number of workstations connect to the Tektronix family of color printers, including the new Phaser II PXe color printer.

The interface does not limit any of the printer's functions, nor does it degrade the server in any way. In fact, because it accepts UNIX lpr spooling commands, the 4511A offloads print jobs from the file server, relieving the print services on a UNIX Ethernet network.

The 4511A supports BSD UNIX 4.3 and AT&T's System V UNIX, with lpr extensions on HP, DEC Ultrix, IBM RS/6000, MIPS, Silicon Graphics and Sun.

With no host software to load, you should be able to install the 4511A in about 15 minutes using thick 10Base5, thin 10Base2 or twisted pair 10BaseT.

After configuring the 4511A and your workstations to identify the Internet addresses and queue names, the 4511A switches the printer among PostScript, HPGL and text mode at a rate of 90 KB per second.

The 4511A comes with its own power supply, a twofoot PC parallel port-toprinter cable, 50 ohm T-connector and terminator.

The Phaser II PXe is a 300-dpi thermal wax transfer color printer that implements Adobe Systems' PostScript Level 2 software. The Phaser II prints on transparency film, paper and fabric transfer media of 8.5 by 11 inches and 8.5 by 14 inches. The color is melted off a ribbon on the printed surface allowing for a smoother quality paper.

The Phaser II PXe is not limited to a workstation environment. Supporting Macs, PCs and VMS systems, in addition to the optional 4511A connectivity, the printer contains parallel, serial and AppleTalk ports, in order to accommodate multiple users and systems on your network without changing cables.

The print engine found in the Phaser II PXe incorporates a 16-MHz AMD 29000 RISC processor. It comes with with 17 standard Adobe fonts that are expandable to 39 fonts. A base memory of 4 MB is upgradeable to 8 MB.

Combined, the 4511A and the Phaser II PXe printer let you use your network's presentation abilities to its fullest. The 4511A lists for \$1,495 and the Phaser II PXe is priced at \$4,995. — Charlie Simpson, Technical Editor.

Tektronix Inc.

Graphics Printing and Imaging Division Wilsonville Industrial Park P.O. Box 1000 Wilsonville, OR 97070-1000 (503) 685-3067 (503) 685-3063 FAX

We Don't Predict the Future.

We Just Give You the Right Financial Management Tools to Prepare for It.

Successful survival in a world of unknowns requires architecture with endurance.

At Mitchell Humphrey & Co., we approach product development with precisely this attitude. Our comprehensive family of financial management solutions are painstakingly designed and smoothly integrated to ensure the longevity of your investment.

You see, it's our belief that your "long-term" investment in financial software shouldn't be history after a year or two. Which is why we won't sacrifice quality and consistency in order to merely rush our products "out the door."

After all, anyone can use third party software to hastily patch cosmetic "features" onto a mediocre accounting system. But what will a patchwork system cost you in terms of reliability and support down the road?

On the other hand, foresight, planning and careful engineering take time. But we wouldn't have it any other way. And after living with our software for a while, we think you'll agree that our time (and your money) have been well spent.

So, if you're in the process of evaluating financial software, why not consider a high-yield investment for the future: Financial Management Systems from Mitchell Humphrey & Co.

1993 2000 PRIDAY SEPTEMBER 2000

MITCHELL HUMPHREY & Co.

Exceptional Software for Exceptional Organizations 800-237-0028

CIRCLE 154 ON READER CARD

BY PAULA JACOBS

NewWave Office ---

When Introduced,

It Was A Radically Different

And Innovative Approach

To Office Computing.

Where Is It Headed Now?

ith the introduction of NewWave Office more than two years ago, Hewlett-Packard pioneered the second genera tion of Integrated Office Systems (IOS). At the time, HP's strategic emphasis on cooperative computing and an object-based graphical user environment represented an innovative concept in office computing. This flexible approach was radically different from that of many hardware vendors whose office systems were tightly coupled with their hardware platforms.

Designed as an open systems solution, NewWave Office provides communications, decision support and information-sharing services, including e-mail, network-wide ad hoc query and terminal emulation capabilities. By creating a seamless interface between applications, NewWave Office helps enhance productivity and efficiency, enabling users to exchange and integrate information across a multivendor, enterprisewide environment.

When NewWave Office was first introduced, the approach was certainly innovative. But that claim is no longer valid. Many other multivendor platform office solutions are available for UNIX and client-server environments. And today, user expectations demand flexibility and freedom of choice as bare-boned requirements for LAN environments.

Nevertheless, has HP legitimately delivered on its promise for an integrated office solution? What kind of widespread acceptance has NewWave Office achieved? And what is the prognosis for its future? We asked these questions of HP, ISVs, industry consultants and customers, and found an interestingly varied set of reactions.

On the one hand, customers sing its praises. But some sources say that NewWave Office has not fared as well as expected.

For veteran users such as Ken Joseph, technical manager at the Solano County City Counsel Office in California, NewWave Office provides exactly the functionality required when the system was first purchased two years ago. More than 60 users on an HP 980/100 system at Solano County have been pleased with the resource sharing and information access that NewWave Office provides.

For American United Life of Indianapolis, which also installed NewWave Office two years ago, it has met the company's needs for information access, resource sharing and an executive office system. According to Sam Stone, vice president, Pension IS, the company originally purchased NewWave Office as an opportunity to do client-server computing, taking database information stored on the mainframe and presenting it to various levels of management. For example, using resource sharing, American United Life stores contracts and other information on the server. In-house departments, clients and brokerage houses can access this information over a LAN.

Another user who praises the merits of NewWave Office is Peter Strombom, vice president, Information Services, of Meriter Health Services, a 500-bed community hospital in Madison, Wisconsin. According to Strombom, Meriter Hospital purchased NewWave Office in order to provide high-level managers with an Executive Information System (EIS) that incorporates NewWave Office and PowerPlay, a drill-down reporting tool from Cognos, an HP NewWave Developer.

At General DataComm in Middlebury, Connecticut, NewWave Office has been used successfully for approximately two years. According to Director of Business Operations John Hannon, NewWave Office was selected as part of an overall corporate UNIX client-server strategy, which includes a transition to AIM and UNIX workstations. "NewWave Office certainly makes my life a lot easier," says Hannon. The product meets a variety of company needs, including object storage for contracts and business operations.

Miles To Go

A CCORDING TO HP, during the first 18 months after the announcement, an estimated 2,000 copies of New-Wave Office shipped to approximately 1,000 customers. Although current figures are unavailable, the company claims that NewWave Office is still shipping at the same rate.

Presently, NewWave Office, which supports both SCO UNIX System V Release 3.2 and Novell NetWare, consists of a suite of 40 software products and services. These include

The primary hurdle is helping users to be more comfortable with client-server technology and applications.

HP-UX, MPE XL and MPE V and UNIX/386 server components, such as HP Information Access, HP LAN Manager and HP OpenMail. HP also offers a variety of client services and applications that provide PC mail, shared resources, networking and word processing functionality.

In addition, through the WaveGroup Developer's Program of Independent Software Vendors, HP offers business intelligence, document management and process automation applications, such as EIS, decision management tools and content-based text retrieval.

In business-intelligence applications, NewWave Office allows data to be gathered efficiently from sources inside and outside an organization in combination with PC-based tools. With document management, users can capture and organize all types of data and documents for shared use in enterprisewide computing. Process automation or workflow communications helps automate business applications, such as expense reports and travel requests, with e-mail and fax.

HP's Steve Jeffery, marketing manager, Corporate Computing Systems Operations, notes a recent shift from MPE customer orders to those from new UNIX customers, i.e., 60 percent are from new UNIX customers and 40 percent are from HP's traditional MPE base. According to Jeffery, NewWave Office has enabled the company to penetrate new accounts. Current NewWave Office users include large HP customers in information-intensive industries, such as service, process manufacturing, pharmaceutical, insurance, financial services and telecommunications.

However, Jeffery admits that NewWave Office must still overcome some obstacles. He says that the primary hurdle is helping users to be more comfortable with client-server technology and applications. Consequently, the sales cycle involved in implementing a totally new client-server strategy is often long. Users are also cautious because of problems associated with products such as IBM's OfficeVision and NCR's Cooperation. In any case, Jeffery admits that while interest is growing and many customers are piloting office systems, HP really doesn't anticipate significant growth until 1993.

To demonstrate its commitment to NewWave Office, HP has increased the number of corporate resources dedicated to NewWave Office. There's also a nationwide Swat team, origi-

nally assembled to market NewWave but which now focuses on specific strategic opportunities.

Ann Palermo, director of Office Systems Research at International Data Corp. (of Framingham, Massachusettes,) emphasizes that HP Office is available and on sale today, unlike some competitive systems that have not shipped. "The real issue for the company is the management of third-party products. There is significant opportunity to position NewWave Office as the delivery vehicle for collaborative applications. One challenge is to help users relate to the NewWave user interface because of the confusion between the terminology NewWave and NewWave Office."

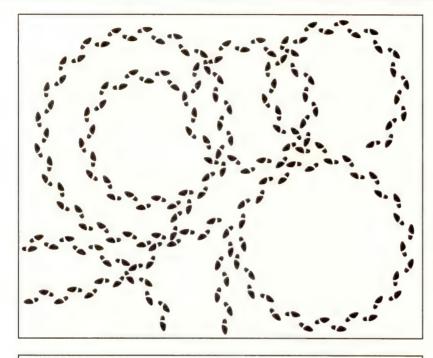
However, some knowledgeable sources close to NewWave Office say that all is not well. They point out that very few programs have emerged recently from the Cooperative Computing Systems Operations, the group chartered with NewWave Office and which has reportedly undergone several reorganizations. One HP sales representative mentioned that HP is maintaining a low profile for NewWave Office. Other problems include the competition HP now faces in the PC LAN world and the fact that HP sales representatives do not sufficiently understand NewWave Office and therefore find it hard to sell.

Both HP sales representatives and NewWave developers cite the inherent difficulty many hardware vendors face in selling third-party software products. For example, it is extremely time-consuming for HP sales representatives to learn the intricacies of software products when they are actually focusing on selling solutions. HP sales representatives readily admit that they really aren't motivated to sell NewWave Office when their commission structure is based on hardware sales. And, with the number of components NewWave Office comprises, no wonder there's room for confusion.

Another problem is the term "NewWave." Many customers mistakenly use NewWave and NewWave Office interchangeably. NewWave is a graphical user interface environment that integrates PC applications. NewWave Office, on the other hand, is a suite of multiplatform, client-server products and services that provide communications, decision support and information access services.

NewWave Developers Program

INCE THE INITIAL ANNOUNCEMENT, HP has touted the merits of the HP WaveGroup Developers Program. The original program goal was to create integrated solutions that solve business problems for customers. Under this program, HP selected a group of third-party software developers whose applications complement NewWave Office. The program was chartered to create solutions that are tightly integrated with HP NewWave Office products and services, focusing on three strategic areas: business intelligence, document management and process automation.



Before HP Software Vendor.

!!

After.

HP Software Vendor lets you control all the PC software on your network from one location.

We know what it's like to be in your shoes. Running around in circles to install, upgrade, and monitor software. Have a seat. In one simple step, HP Software Vendor lets you automatically install PC applications across your network. This lets your end users choose desired

applications. And instantly download software to their PCs. Which means you won't be carrying loads of floppies from one PC to another.

HP Software Vendor will reduce the ever-increasing task of software management by providing you with the information necessary for an audit. It will tell you which PCs have what application and what version. As well as give you the accompanying license information. No extra steps. No sweat.

So call 1-800-237-3990 for a demonstration disk and information. In Europe, fax your mailing address to +33 76 62 25 15. After all, when it's running, you're not.



CIRCLE 118 ON READER CARD

There are 2 things in life you don't want to miss...

Free InterWorks Membership

a n d

The InterWorks '92 Conference in in New Orleans August 24-27



To become a member and to get more information on InterWorks '92 contact: Carol Relph at 508-436-5046

When HP originally introduced the NewWave Developers Program, some consultants and customers expressed concern about HP's ability to deliver the same high-quality service and support with third-party products as with their own products. However, interviews with both customers and NewWave Developers indicate that HP has indeed kept its promise. HP support specialists have received third-party training and provide first-line support. HP works closely with third-party developers when additional support is required.

Barry Goss, director of marketing at Verity Inc., a document retrieval company and a NewWave Office Developer, is convinced that HP has a winning strategy in place. Under a joint development agreement, Verity and HP will provide document management products based on Topic, Verity's intelligent document retrieval system.

Barry Gillespie, director of marketing at JetForm, also a NewWave Office Developer, is quite positive about the ongoing relationship with HP. Specifically, he praises the technical and marketing support HP has provided JetForm, and attributes many of the sales of JetForm's to the NewWave Office efforts.

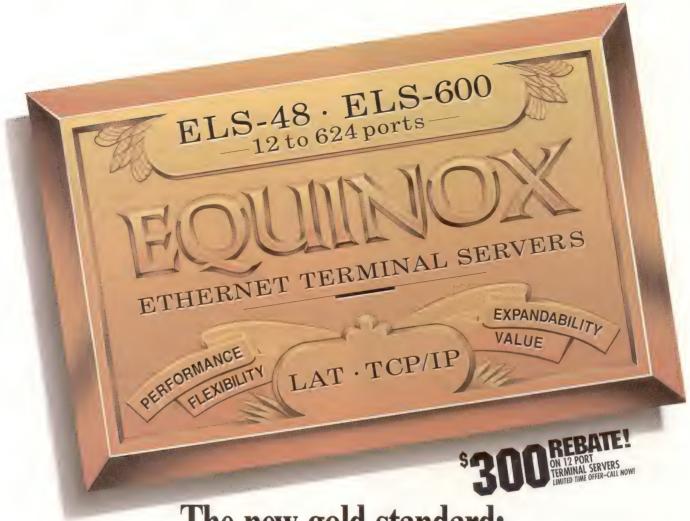
However, the reluctance of several NewWave Office Developers to discuss either the program or their relationship with HP does not augur well. One manager, who would speak only anonymously, noted that his company's relationship with HP did not meet expectations relative to its experience with other vendors. He felt that sales did not measure up, but attributed it to the long sales cycle engendered in positioning NewWave Office as part of a new corporate client-server solution.

HP also appears to be sending mixed signals about the future of this program. According to Judy Watts, marketing programs manager for NewWave Office, "In essence, the WaveGroup Program was established to recruit the 'right' software application companies to join the NewWave ISVs. Its objective was to build a grouping of software applications that were written to NewWave APIs for linking and embedding, agent support and object models. With the 4.0 release of the NewWave Environment, it is no longer required or recommended to write specifically to NewWave."

Strategy For The Future

EWLETT-PACKARD WILL INTRODUCE a significantly enhanced version of NewWave Office in early fall 1992, according to Steve Jeffery. Currently in beta test, the next revision will add more functionality for business intelligence, document management and e-mail, in terms of integration and breadth of clients as well as support for the Macintosh and UNIX desktop environment. It will also offer a higher level of integration and improved networking, e-mail and database connectivity. The focus will be on sharing information among workgroups and across enterprises.

With this announcement, HP will expand the number of



The new gold standard: 24-karat performance, lowest cost per port

New Terminal Servers. Big And Small. Equinox introduces the ELS-600, the biggest terminal server in the business. And 12 port models of our popular ELS-48. All deliver blazing performance at the industry's lowest cost per port.

Maximum Throughput. No Waiting. Multiple RISC processors offer unsurpassed throughput. So you can keep fast printers busy and speed file trans-



ELS-48 performance, expandability, economy

ELS-600— 600+ ports, fault tolerant design



fers without penalizing keyboard response. No matter how many ports are active.

Expandability. For Growing Networks. The compact ELS-48 fits anywhere—even wall mounted in wiring closets. Expand it in easy steps, from 12 or 24 to 36 or 48 ports as you need. Gain major cost savings. And avoid the hassle of managing and trouble-shooting a stack of low capacity servers.

High Capacity. For Structured Wiring. Need to terminate large numbers of cables at a central point? Select the ELS-600. Dual protocol support. Modular expansion from 48 to 624 ports. Fault tolerant "hot-swap" design. And priced much lower than DECserver 550.

Flexibility. Built To Suit Your Needs. ELS servers feature full DECserver compatibility. Built-in support for LAT & TCP/IP. Flash ROM to make upgrades a breeze. Mix-and-match plug-in cards. Thick, thin or 10BaseT Ethernet. Modem

control ports. Parallel printer ports. Extended distance ports that drive RS-232 terminals located 3000+ feet away. Even a Protocol Translator that gives TCP/IP functionality to LAT-only DECservers. And a complete range of wiring accessories to connect it all up.

So Why Pay More For Less? With Equinox's rich feature set, 3 year warranty, optional service by DEC and a cost per port as low as \$110, ELS-48 and ELS-600 set the industry's new gold standard. For top performance on your network, call Equinox today for the name of your nearest distributor.

EQUINOX

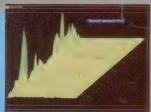
Equinox Systems, Inc. 14260 S.W. 119 Avenue Miami, FL 33186

800/275-3500

305/255-3500 • FAX 305/253-0003

All trademarks are the property of their respective owners.

DADISP 3.0 for Scientific Data Analysis



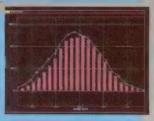
Albert House free

Signal Processing & FFTs Filter Design Speech (Communications Sonar & Radar Electronics Design Mechanical Test Vibration Analysis



Adday! Prair uphice

Medical Imaging Satellite Seismology Terrain Rendering Communications



Anti-Antoniomisma

Data Acquisition IEEE-488 Test & Measurement Process Control Quality Improvement Manufacturing Test



VERMINIE

Statistics
Experimental Design
Hypothesis Testing
Peak Analysis
Chemistry
Medical Research
Quality Management



. .

Inverse/Transpose Eigen Values & Vectors Matrix Math 2D FFTs and convolutions 3D and 4D Graphic Displays Operations Research

CALL 1-800-777-515

for your free DADiSP Trial Kit. DADiSP is available for SUN, HP, IBM, NeXT, DEC, Concurrent, and Silicon Graphics workstations, and of course, IBM PC compatibles.



One Kendall Square, Cambridge, MA 02139, 617-577-1133, FAX: 617-577-8211

CIRCLE 110 ON READER CARD

deals with key third-party providers that can integrate their technology into NewWave Office and improve overall functionality. Additionally, HP is streamlining how products are structured in order to make selling, ordering, delivery and installation easier and more consistent.

There's no question that a clear strategy and the right positioning are key. As one HP Swat team member said, "We have had successes where customers are looking for a broad set of capabilities and strong networking. But right now we don't have a good office story to sell."

Where Does It Go From Here?

ERTAINLY, HP NEWWAVE OFFICE has set the stage for a new generation of office products. It has added a creative dimension to the office, with a prototype solution that is intuitive and easy to use.

But let's face it, selling a strategic solution is never easy. And the introduction of a client-server strategy into an existing organization requires a totally new mindset, education and redirecting of corporate resources. For example, chances are that any IOS strategy involves integration with existing networks and an inherited Information Technology (IT) legacy. While most organizations may agree that client-server computing is in their future, the reality is that in most large organizations, IT expertise still revolves around skill sets strongly rooted in centralized, larger scale systems. Defining the road map for this strategic direction may take a while, and finding the correct route is not always a straight path.

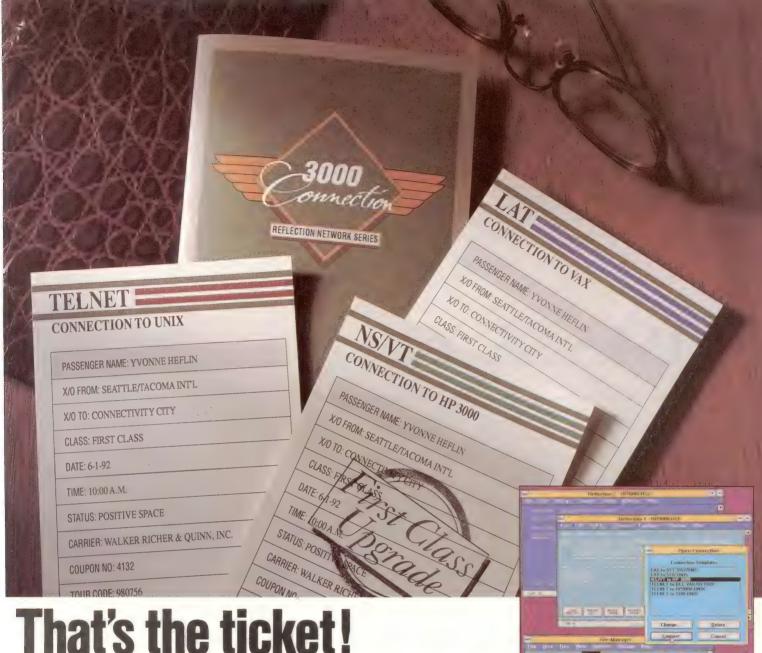
Despite some initial difficulties and disappointing sales, HP may still have a bright future as an IOS player for several reasons. First, HP's strong reputation and foothold in the UNIX market, together with solid networking capabilities, are certainly valuable trump cards. Second, NewWave Office is real and available, with ample reference accounts. Third, and most important, plans to introduce a new, highly robust version of NewWave Office indicate that HP has a coherent office strategy in place.

The obvious question is this: Can HP bank its office strategy on a future release of NewWave Office? More important, can HP effectively sell integrated office solutions? The answer is a qualified yes, assuming proper positioning and sales force training. While sales of NewWave Office may be somewhat disappointing, it's hardly time to issue a death sentence. Let's wait until the much-anticipated release is on the market before declaring a verdict.— Paula Jacobs is a marketing consultant and writer based in Framingham, MA. She specializes in the implementation of new technologies.

Would you like to continue to see articles on this topic?

Circle on reader card

yes 350 no 349



That's the ticket!

Mulitple hosts. Multiple servers. Multiple protocols.

Go where you want to go! Access all your hosts and servers from your PC — at the same time. Take the 3000 Connection from the Reflection Network Series™ software and travel your network in style.

Explore multiple sessions to one or more hosts, or work on PC LAN and host applications simultaneously. Switch among sessions without rebooting. Run a number of host and server protocols concurrently from a single network interface card, using very little memory.

Only the 3000 Connection takes you so far. Reach HP 3000, HP 9000, Digital VAX, and UNIX, and other hosts. (Even IBM mainframes through TCP/IP.) Use Novell and other LANs at the same time. Link up over any major network, with no need for DTCs or gateways.

Put Reflection® terminal emulators to work with the Reflection Network Series and get a lot more mileage. Like the most precise HP emulation for DOS and Windows. Powerful command language. And Reflection's exclusive connection manager, for easy multi-session management.

The 3000 Connection — for all the destinations in your changing world.

Ask about our NEW network options for the Macintosh

- Connect to HP 3000 hosts with NS/VT
- Link to DEC, HP 9000, & UNIX with Telnet
 - With Apple's Communications Toolbox

Over Ethernet or LocalTalk

1-800-92**NETW**ORI

SOFTWARE

WalkerRicher&Quinn, Inc.

CIRCLE 145 ON READER CARD

IMAGE IS

NEARLY)

EVERYTHING

Once A Niche Technology,
Imaging Has Come A Long
Way In A Short Time —
Permeating New Markets
With A 50-60 Percent
Annual Growth Rate

By Bill Sharp

maging adheres to the well-known disease theory of technology (which I just made up). According to the theory, any effective new technology will expand in two primary stages. During the first, the original technology strain multiplies with increasing speed, replicating itself in large numbers of very similar systems. During the second stage, the technology mutates and combines with other technologies to create significant numbers of different hybrid technologies. The speed with which these mutations and combinations arise and multiply is directly proportional to their perceived economic value.

In areas such as insurance claims processing, public recordkeeping and banking functions, even rudimentary imaging is a **Diagnostics and Repair**

Broken chains (either specific detail or synonym chains, or ALL the chains in a path)

Root file inconsistencies

Global dataset counts and pointers Master dataset entry inconsistencies

Maintenance

Manage dataset capacities

Repack detail datasets to improve their performance

Reblock datasets (optionally modifying global database buffer size)

Relocate datasets to specific disc devices or classes

Modify security provisions

Erase datasets (delete all the entries in specific datasets)

Recreate missing dataset files Rename fields, items, datasets Change primary path definition

Reporting

Capacities of all datasets Characteristics of data items Characteristics of datasets Paths Schema

Database-level Functions

Copy databases

Cremate databases (first erase and then purge all datasets)

Rename databases

Restructuring

Add: Data items to databases

Fields to datasets Datasets to databases

Paths between masters and details

The sort feature to paths

Delete: Data items from databases

Fields from datasets Datasets from databases

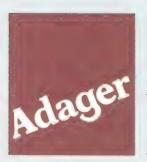
Paths between masters and details The sort feature from paths

Change: The characteristics of data items (and their fields) in all datasets

The characteristics of fields in a specific dataset The type of datasets (i.e. automatic, manual, detail)

Shuffle: The order of datasets

The order of fields within dataset entries



The Adapter/Manager for IMAGE/3000 Databases

ADAGER MODEL

The Adapter/Manager for TurboIMAGE Databases
The Adapter/Manager for TurboIMAGE/XL Databases

Sun Valley, Idaho 83353-0030 U.S.A.

Telephone: +1 (208) 726-9100 or toll-free from Canada and U.S.A. (800) 533-7346 Fax +1 (208) 726-8191 Telex 40-3392 Adager EasyLink 6289-6060 Imaging will reach nearly \$2 billion in sales for the U.S. alone this year, and is growing at an impressive 50 to 60 percent per year.

hot item. These applications represent the primary infection of the marketplace with the imaging disease.

Today we report the first strong evidence for new strains of the imaging disease, as it mutates away from the first easily identifiable forms and into new, less recognizable strains. In all three of the cases noted above, imaging takes on some new form that promises to start spreading rapidly outward into the business population. Paradoxically, in marked contrast to the usual result of infection, afflicted businesses seem to benefit strongly from most imaging illnesses.

How's That?

A TOTICON, THE DANISH hearing aid manufacturer, they like to shred the mail before it ever reaches anyone's desk. More than 225 sales and service employeeswork in a "paperless" office. In the mailroom, their letters are opened and scanned into an HP Advanced Image Management Software (AIMS) system that is coupled to HP NewWave, which delivers the resulting electronic mail. Once the scanning is verified, letters are shredded and sent out for recycling. On the way out of the building, the newly formed confetti passes through the cafeteria in a transparent chute so employees can see evidence of their "paperless" progress. Oticon expects the new system to improve productivity by 30 percent over three years.

In New York City, November's elections appear certain to strongly endorse one candidate — new electronic polling lists generated using an imaging system developed by Andersen Consulting of Chicago. Using the system, the New York City Board of Elections is phasing out its old system of massive voter registration books that required constant manual updating to keep them accurate. Instead, the Board of Elections will use its new imaging system developed on HP AIMS and running on

HP hardware, linked to a voter database residing on an IBM mainframe.

A few days before each election, a new printout of voter names and signatures is ready to use. The system is called Signature Capture, Reproduction and Imaging system for the Board of Elections (SCRIBE). Brooklyn, the Bronx and Staten Island will use the system during the November elections. When fully implemented next year, the system will include information on more than three million voters. Voters will notice less waiting at polling places, and the signature book for voter verification is smaller, cleaner and better organized.

Remarkable Marketing Research

P's MARKET RESEARCH and Information Center in Cupertino, CA., is home to some very talented people charged with a task that has historically been rather frustrating: Supply marketing research and information as required by hundreds of HP marketing professionals around the world. AIMS Product Manager Nikola Cowburn describes trying to get information from Cupertino to Pinewood quickly and accurately using older systems as frustrating. Each facility tended to do its own research. "We do a tremendous amount of research, and it terrifies me to think of how often that work is duplicated," she says.

Jim Douvikas, a project manager with the center, intends to change that by building a centralized research system based on HP AIMS. "The process before was completely manual access. The objective of this system is to redesign the business research process to impact HP's profitability. There is no other integrated research facility available inside or outside HP."

Douvikas says the system will be available 24 hours a day, worldwide, to provide both syndicated market research from outside vendors, as well as HP's original research. Documents will be viewed in their original form using AIMS and can be printed or faxed from AIMS. The application will include system security. He intends to use the system to eliminate redundant research, eliminate research mistakes, allow marketers to focus on using information rather than finding it, and to improve the quality of marketing decision making.

A \$2 Billion 1992 Market

P's DUAL INTEREST IN imaging, both as a product for sale and as an internal tool, makes good sense. According to Bruce Silver, director of Image Management Systems with BIS Strategic Decisions (Norwell, MA) imaging will reach nearly \$2 billion in sales for the U.S. alone this year, and is growing at an impressive 50 to 60 percent per year in spite of the sagging economy.

Imaging growth, says Silver, centers around new features and

ISA MEMORY ENHANCEMENTS



Everything found in the competitor's memory boards, except the price!



HP9000/8x7 or HP3000/9x7 HP9000/750 HP9000/720 and 730 HP9000/705 and 710 HP9000/362.382.and 425e

32MB \$3000.00 64MB \$6000.00 32MB \$2400.00 16MB \$1200.00 16MB \$1000.00

64MB \$4800.00 32MB \$2400.00 32MB \$2000.00

Headquarters:

ISA CO., LTD. 1-1-5 Sekiguchi, Bunkyo-Ku, Tokyo 112 Japan Tel: 81-3 (5261) 1160 Fax: 81-3 (5261) 1165 U.S.A.

TEXAS ISA, INC. (U.S.A.) Tel: 713-493-9925

16VB \$1400.00

Fax: 713-493-2724

Asia / Oceania:

ISAHK CO., LTD. (Hong Kong) Tel: 852-3674877 Fax: 852-3696943

KINGDOM PTY. LTD. (Australia) Tel: 61-2-451-8131 Fax: 61-2-975-3819 HOWCHING CORP. (Taiwan) Tel: 886-2-5050525 Fax: 886-2-5031680 PT. CITRATHIRZA ASTARIJAYA (Indonesia) Tel:021-828-1687 Fax: 021-828-1686 INFONET ENGINEERING PTE LTD. (Singapore) Tel: 65-296-3377 Fax: 65-297-1194

EURISA (France) Tel: 33-1-48-61-48-95 Fax: 33-1-48-61-49-06

COMPUTECHNIC AG (Switzerland) Tel: 41-71-42-64-64 Fax: 41-71-42-64-55 HCS GmbH (Germany) Tel: 49-40-550-10-75 Fax: 49-40-559-14-86 SEDASIS SA (France) Tel: 33-98-41-70-90 Fax: 33-98-41-66-33

* All trade names and product numbers are the property of their respective companies.

CIRCLE 245 ON READER CARD

Depending on your application, access to old records on your imaging system may be a total waste of time or utterly crucial.

functions and moving imaging onto open systems with standard platforms, which is music to HP's ears, as its product resides on the UNIX-based HP 9000.

Integration, the glue that makes systems really work on daily tasks rather than just sounding like they might work, is the thrust of imaging now. Developing real systems and solving some of the problems that crop up when you grab hold of a new technology and find you are going for an unexpected ride.

One of those fast and not-so-funny rides takes place just after you've gotten your new imaging system up and running, and some wise-guy asks if we can get at the *old* records. Most imaging user wannabes visualize being able to call up any old record at the drop of a hat as they respond to inquiries almost instantly on the new system. This would be accurate except

for one assumption. Many new imaging systems are priced to include hardware, software, maintenance and even training — but they cleverly omit backfile conversion.

Backfile conversion sounds like plumber's jargon, but it refers to bringing all your old paper, film or magnetic storage records into the new imaging system. Depending on your application, access to old records on your imaging system may be a total waste of time or utterly crucial to keeping the business afloat.

This would be less of an issue if backfile conversion weren't rather costly. "It can cost from five cents to a dollar a page," says Silver of BIS. "If you have 10 million documents and you pay 25 cents per page, you've got \$2.5 million in costs." — And that doesn't include the cost of the system.



- Plug compatible for 700/92, 700/94, 2392, 2394.
- For use on all HP 3000/9000/1000's.
- 40% larger screen area.
- Custom font.
- · Less user eye strain.
- 8 pages of displayable memory.
- 80/132 columns in 2 keystrokes.
- · 2394 forms cache.



· Reliable, proven performance.

- · Uses less power in sleep mode.
- Desk top accessories: calculator, appointment calendar, note pad and personal file system.
- Whether you prefer the HCT or new CET with typeahead, you will enjoy the lowest total cost of ownership and a 5-year warranty.*

Call for a free demo.



Cumulus Technology Corp. 1007 Elwell Court, Palo Alto, CA 94303 For more information call: (415) 960-1200 (800) 648-6004 Fax (415) 960-3522

*Continental USA and Canada only.

Our HP 9000 Series 700 memory is also guaranteed to be compatible with this.



TO MARKET from Camintonn

First to market

Sure, you'll save big with Camintonn upgrade memory for HP 9000 Model 720/ 730/750 workstations. But memory

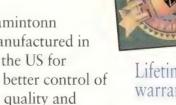
has much more to offer.

Like a ten-year record of 100% compatibility. And a reputation for successful first-to-market memory introductions.

What's more, Camintonn memories are manufactured in



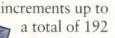
10-year track record



Lifetime warranty

higher reliability. And every Camintonn memory comes with the ultimate performance guarantee: a lifetime warranty.

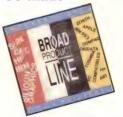
Camintonn offers three different memory modules for HP 9000 Series 700 systems. You can add memory economically in 8, 16 or 32-MByte



MBytes, depending on model.

So for high performance, without the high price, call Camintonn/ Z-RAM today for details.

US-made



Broad product line



About Z-RAM

Camintonn/Z-RAM memories include upgrade products for IBM® PS/20 and Apple® Macintosh® computers, laser printers and most PC-compatibles.

100%

compatible



The last word in memory

Tel: 800/368-4RAM or 714/454-1500

Fax: 714/454-6599



The process generally includes processes very much like original data entry into the system, including scanning of paper documents as well as careful data entry and indexing for effective retrieval later. Data entry and indexing are the most expensive portions of the process as they are both labor-intensive manual processes. In some cases, large jobs may benefit from converting documents first to film and then scanning them into the imaging system as a second step.

Because its cost is high and its usefulness varies from one imaging application to another, backfile conversion should be considered before an imaging system is purchased, says Steve Fontana, Imaging Division manager for Software Systems Technology (New York).

"Look closely at the cost justification of a new imaging system," he says. "It should include the cost of making all the necessary documents available in the new system. The backfile conversion cost must allow you to make these documents available to the system when your imaging system comes online or shortly after, or you could have serious trouble. Include these costs in the total price of the imaging system."

Some applications, such as pension and insurance applications, may require backfile conversion of all existing documents, while an accounts receivable application may require no backfile conversion at all. "But if you have insurance applications with a previous history, it doesn't do you any good to account for just new paper in your imaging system and ignore older paper in the file cabinet."

Once you determine that your imaging application requires backfile conversion, you have three options, says Fontana.

- 1. Ignore it Just because it would be smart and efficient does not mean you have to do it. Many hardware manufacturers, painfully aware of the costs of backfile conversion, elect to simply not mention it in selling you an imaging system. You can elect to ignore it as well.
- 2. Do the conversion internally By converting your documents internally, you can reduce the cost of the process and perhaps protect sensitive documents. On the down side, this solutions must be managed carefully to ensure the necessary documents are online when you need them converting internally can take quite a bit longer.
- 3. Contract with an outside service bureau If speed is crucial or the job is huge, consider using outside help. People who specialize in this kind of work may complete the job much faster, and can likely set up several parallel processes. This

OVERLAPPING TECHNOLOGIES AND MARKETS

Boundaries between technologies and products grow increasingly vague with time, as computers offer increasing amounts of processing capability and links between solutions become more capable. While HP AIMS shares in the image *management* market, the nearby image *processing* market is moving along as well. Because it is easy to confuse these markets due to their similar names, and as their technologies in part overlap, here is a peak at image processing.

Silver of BIS simplifies the distinction nicely: "Document imaging is not about processing but about image management. There is relatively little intelligent processing of the image data." HP AIMS and its relatives take the image data you scan into the system and store it, allowing you to later retrieve and manipulate that image in simple ways. As noted, this is a large and rapidly growing business.

Image processing is much less concerned with the management of image data and much more concerned with the enhancement and interpretation of complex image data. Here the focus is on processing or computation using the image as a starting point.

Dennis W. Morgan, special programs manager for BDS Inc., Sterling, VA, works not in the realm of insurance claim forms and canceled bank checks, but with images from nuclear magnetic resonance systems, high-resolution mapping, and image enhancement from space and underwater photography. BDS, a systems integration firm, works not with personal computers but with UNIX workstations to get the processing power to do their work.

What is changing in this market is that, where complex image processing has required dedicated, custom computer systems in the past, UNIX workstations have enough power to get the job done now. Morgan sees the HP 700 series as an emerging favorite in this high end market. "What makes the whole thing work is the HP 700 series. It is perfectly designed for processing images from satellites, remote sensing, medical systems and defense work." HP's model 750 workstation for complex image processing "will crush anything else out there," he says.

Applications that used to require systems costing \$500,000 to \$1 million now can use the HP 750 at a fraction of the cost. And once applications are moved over to UNIX, they can be ported to other vendors' UNIX systems if need be.

What can this kind of processing power do? "You can take photographic images of adjoining areas, one from 5,000 feet and another from 10,000 feet, and the system can generate a combined image in one scale and register that image to a specified scale to help update a map. The workstation does not do this alone, however. BDS last month issued release 1.2 of its Xcalibur high performance image processing software for use with UNIX workstations.

HP 700 workstations and Xcalibur are teaming up to provide new visualization and analysis software for the National Institutes of Health (NIH). BDS will design and develop the Multimodality Radiological Image processing System (MRIPS) for the NIH by extending the 2-D and 3-D capabilities of Xcalibur. MRIPS will be used to analyze data from computerized tomography (CT), nuclear magnetic resonance (NMR), magnetic resonance spectroscopy (MRS), positron emission tomography (PET), single photo emission computed tomography (SPECT), digital subtraction angiography (DSA) and ultrasound. — Bill Sharp, Technical Editor

How Kelly unleashes HP performance.

It's a Kelly tradition. Taking HP system performance to the maximum. Cutting through the restrictions. Overcoming the limitations — whether posed by CPU, memory or I/O.

We've worked at it. Putting together solid HP system expertise — hardware, software and applications. Developing the tools. Delivering on promises. Establishing ourselves as "the HP performance people."

Who else would be first to ship add-in memory for the new Spectrum-class systems? 16-MB modules that get the best from that memory-hungry RISC-based HP Precision Architecture (HPPA). They're the first of various performance-boosting Spectrum-class products you can expect from Kelly.

And take our "classic" HP 3000

memory upgrades. The fastest available. With more board configurations than you'll find anywhere—from 1 to 16 MB. There's

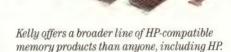
there's more to come.

A final point. When a Kelly product is ready, it's ready. Count on delivery. Performance. And reliability—attested by

MTBFs exceeding 60 years, 20,000 units in the field and our Lifetime Memory Warranty.

Write, phone or FAX today.

Learn more about how we've become "the HP performance people."



also our *XL/3000 RAMDISC*—up to 112 MB of plug-in solid-state disc—that boosts application productivity as much as 50%. Instant reads. Instant writes. With no added MPE overhead. And here again,

COMPUTER SYSTEMS

274 Ferguson Dr. Mountain View, CA 94043 Tel: 415/960-1010 Fax: 415/960-3474

Reimerstwiete 22 D-W2000 Hamburg 11 Tel: +49-40-365055 Fax: +49-40-363960



solution may cost more than doing the job internally. Offshore data entry may help to hold costs down, says Fontana.

HP's Imaging Products

ACH LARGE VENDOR OF computing hardware, and quite a few software vendors, offer imaging products. Digital and IBM are happy to take your money, and Lotus-Development Corp. is extending its successful groupware product Notes to provide imaging capability as well. Naturally, HP is not planning on being left out of all this.

HP's imaging products were developed in Pinewood, England and the marketing program is run from that location in tandem with groups in California and Colorado.

Nikola Cowburn manages much of the marketing for HP AIMS. She notes that recent changes in the product's capabilities include:

- AIMS runs on Windows 3.0.
- You now can FAX images from the AIMS database.
- You can route incoming FAXes into the AIMS database or route them on to other people using AIMS.
- Dynamic data exchange allows integrating AIMS with existing databases on HP 3000, DEC VAX or IBM systems.
- AIMS supports HP rewritable or WORM optical drives from 10 to 93 GB, and Signet third-party drives up to 1.27 TB.

HP AIMS is a UNIX-based client-server image management system that uses personal computers running MS-DOS and MS-Windows for applications processing. By basing AIMS on its open systems UNIX architecture, HP makes it easier for both its own and third-party developers to integrate the product into other systems. This is in part why Andersen Consulting, which works with all the major vendors, chose to use HP AIMS as the basis for the SCRIBE system in New York City, which links to a large IBM-mainframe-resident database. The same ease of establishing links made the integration of AIMS with NewWave possible for Oticon in Denmark.

The core of HP AIMS is the DataManager, a relational database management system (RDBMS) jointly developed from Informix products by Informix and Plexus Software. AIMS DataManager resides on an HP 9000 server and includes Informix TURBO and SQL, along with enhancements for managing objects up to 2 GB in size. Other typical elements in an imaging system include magnetic storage for the server, optical storage for image data, scanner, scanning station personal computer, display personal computer stations for imaging work, print server and laser printer as well as a fax server. It will come as no surprise that HP is happy to supply any or all of these for your imaging pleasure.

Would you like to continue to see articles on this topic?

Circle on reader card

yes 338 no 337

IMAGING VENDORS/COMPANIES MENTIONED

Andersen Consulting 69 W. Washington Chicago, IL 60602 (800) 541-7512

(800) 541-7512 CIRCLE 351 ON READER CARD

BDS Inc. 105 Carpenter Drive Sterling, VA 22170 (703) 742-0800 CIRCLE 352 ON READER CARD

BIS Strategic Decisions 1 Longwater Circle Norwell, MA 02061 (617) 982-9500 CIRCLE 353 ON READER CARD

Comstow Information Services 249 Ayer Rd., P.O. Box 277 Harvard, MA 01451-0277 (508) 772-2001 CIRCLE 354 ON READER CARD

DSP Development Corp. One Kendall Square Cambridge, MA 02139 (617) 577-1133 CIRCLE 370 ON READER CARD Dynamic Information Systems Corp. 910 15th St., Ste. 640 Denver, CO 80202 (303) 893-0335 CIRCLE 355 ON READER CARD

Filenet Corp. 3565 Harbor Blvd. Costa Mesa, CA 92626 (714) 966-3400 CIRCLE 356 ON READER CARD

Formtek Inc. 661 Andersen Dr. Pittsburgh, PA 15220 (800) 367-6835 CIRCLE 357 ON READER CARD

Fulcrum Technologies Inc. 785 Carling Ave. Ottawa, ON, Canada K1S 5H4 (613) 238-1761 CIRCLE 358 ON READER CARD IMIX Corp. 3701 Concorde Pkwy. Ste. 1500 Chantilly, VA 22021 (703) 968-0067 CIRCLE 359 ON READER CARD

Information Dimensions 5080 Tuttle Crossing Blvd. Dublin, OH 43017-3569 (800) DATA MGT CIRCLE 360 ON READER CARD

Informix Software Inc. 4100 Bohannon Dr. Menlo Park, CA 94025 (800) 438-7627 CIRCLE 361 ON READER CARD

Intercap Graphics Systems 116 Defense Hwy. Annapolis, MD 21401 (301) 224-2926 CIRCLE 362 ON READER CARD Lotus Development Corp. 55 Cambridge Pkwy. Cambridge, MA 02142 (617) 577-8500 CIRCLE 363 ON READER CARD

Management Information Technology Inc. 3703 Long Beach Blvd. Ste. E-14 Long Beach, CA 90807 (213) 424-4399 CIRCLE 364 ON READER CARD

Novacad Inc. 129 Middlesex Tpk. Burlington, MA 01803 (617) 221-0300 CIRCLE 365 ON READER CARD

Plexus Software Inc. 5200 Great American Pkwy. Ste. 200 Santa Clara, CA 95054 (408) 982-4800 CIRCLE 366 ON READER CARD RGB Spectrum 950 Marina Village Pkwy. Alameda, CA 94501 (510) 814-7000 CIRCLE 371 ON READER CARD

Sedasis Informatique 14 Rue de Maupertuis 29200, Brest, France 33 98 41 70 90 CIRCLE 367 ON READER CARD

Software Systems Technology Inc. 305 Broadway New York, NY 10007 (212) 964-9600 CIRCLE 369 ON READER CARD

Verity Inc. 1550 Plymouth St. Mountain View, CA 94043-1230 (415) 960-7600 CIRCLE 368 ON READER CARD

What do users of all these systems rely on?

















Clearpoint Memory!

Why? Because Clearpoint is the world leader in add-in memory. In 1991 alone, Clearpoint shipped over 5,000,000 megabytes of memory products. Clearpoint has been an industry leader in add-in memory for HP Apollo systems since our introduction of the first independent Apollo memory solution in 1986.

Another Clearpoint First!

Clearpoint is the only independent manufacturer to offer a 32 MB solution for HP 9000 Models 720 and 730, allowing users to reach the 128 MB system memory capacity.

Specializing in cost-effective, high-density workstation memory alternatives, Clearpoint delivers the HPME Series of memory for HP 9000 Models 705, 710, 720, 730, and 750. Designed for longer life and superior reliability, the HP Apollo series also includes modules for HP 9000 Series 3xx and 4xx, and Apollo Domain 2500, 3xxx, 4xxx, and 5xxx.

- Lifetime warranty 24-hour repair/replace policy



Call for more information 1-800-253-2778

• Toll-free technical hotline with 24-hour-a-day support • Worldwide spares depots

Clearpoint and the Clearpoint logo are registered trademarks of Clearpoint Research Corporation. All other trademarks are trademarks of their respective companies.

Clearpoint Research Corporation • 35 Parkwood Drive • Hopkinton, MA 01748 Tel: (508) 435-2000 FAX: (508) 435-7530



OPTIMAL DESIGN



Solid Modeling Leads

To Solid Sales

For Aircraft Controls

Manufacturer

BY PAUL BENSON

Talk to Jim Hart and you'll gain a fresh appreciation for the design-optimization process.

Hart, manager of Proposal Engineering at Eaton Corp.'s Aircraft Controls Division, has recently overseen the implementation of a solid modeling system at the Denville, NJ facility.

The division is one of the world's leading suppliers of cockpit controls and electromechanical actuators to the aviation industry. Its products are found aboard every type of aircraft — commercial, military, business and private fixed-wing, helicopters, short take-off and land (STOL), and vertical take-off and land (VTOL) aircraft like the Boeing Vertol Osprey.

Typical cockpit controls include landing gear controls, flap selector controls, trim controls, fire emergency controls, power quadrants and custom control panels. These instruments serve as the interface between the pilot and a host of linear and rotary electromechanical actuators, which are also designed by the Eaton Aircraft Controls Division.

"These actuators, which are designed to perform a wide variety of functions reliably under the most severe conditions, can

PCs integrated*

Are you still in the dark when it comes to network backup?

CENTRAL **BACK UP**

HP OmniBack and HP OmniBack/Turbo: fast and powerful backup solutions.

Who worried 200 years ago if it took a few hours each evening to light the street lamps? When it comes to your network backup, you usually need to worry about the time involved.

However, today's backup solutions – HP OmniBack and HP OmniBack/Turbo – make time uncritical. The backup for your entire network may be automated from one single point. Local databases can be backed up with up to 12 GBytes/hour.

Central control means that these extremely powerful tools enable you to reduce operating and resource costs dramatically.

HP OmniBack and HP OmniBack/Turbo support all HP-UX and Apollo Domain systems while giving you the freedom of choice in storage technology, from tape drives, to DAT/DDS devices, to rewritable optical disk library systems.

If you would like more enlightenment on how HP OmniBack and HP OmniBack/
Turbo can increase efficiency at your company, contact your local HP sales office and ask for an evaluation copy.
Today.





control almost anything on an aircraft," Hart explains. "They operate the aileron and rudder trim tabs, and open and close doors everywhere from oil coolers to auxiliary power units. They also regulate fuel control devices and lock and unlock everything from landing gear to bomb racks."

Indeed, Eaton has designed and manufactured 145 different actuator models. Since 1972, when the company first entered the aircraft actuator business, it has shipped more than 35,000 units. Despite this considerable volume, these are custom-designed and manufactured pieces.

Such a high degree of custom design and relatively low manufacturing volume ("Fifteen-hundred pieces at one time is a very large order for the aircraft business," Hart points out), Eaton became increasingly interested in methodologies that could trim design and manufacturing time. Not only would such efficiencies help contain costs, they would contribute to the company's competitive edge in a highly competitive international market. Any competitive edge would lead to increased sales.

Enter solid modeling, or 3-D design.

"Hewlett-Packard's ME30 modeling, design and drafting system allows us to optimize a design in a much shorter period of time, so it's a cost-saving operation," Hart says.

"The time it takes to get initial thoughts on paper or onto a

computer screen is about the same," he notes. "We cannot hurry our own processes."

Hart notes that once the initial design is set, CAD shines.

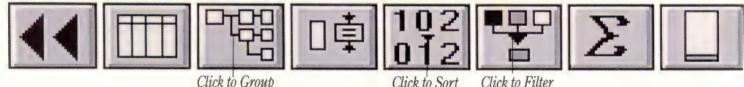
"Design changes and 'what-ifs can be done very quickly on the system," Hart notes. "In addition, the information is a geometrically correct entity — accurate to 15 significant decimal places." Solid modeling becomes a tool for design optimization, he maintains. He figures the optimization is on the order of three-to-one.

"Frequently, we have an existing design and a customer needs one similar to it. We can call up the model and amend the design almost immediately."

Although solid modeling is still fairly new to the division - the ME30 package running on HP Apollo Series 700 workstations was installed in the fall of 1991 — it's already paying off for Eaton. "We can do a better job of getting our products out the door," Hart says. "The system allows us to do a better job — faster — in our designs."

Competition in the aircraft business boils down to more than just dollars; contracts can be won or lost on the basis of control and actuator weights and sizes. The smaller and the lighter, the better. To this end, Hart notes that solid modeling provides a competitive edge by providing increased accuracy and quicker analysis than traditional design methods.

WE HAVE SOME GRAPHI



Click to Group

Now generating SQL queries is as easy as point and click. Intro-

ducing Impromptu[™] from Cognos.®

It's the first

Windows-based SQL query

tool that your users will swear by. Not at.

With Impromptu, users never see SQL. Instead, they see our easy-to-use, graphical icon Query Bar. With just a mouse click, users can automatically perform SQL queries. With just a few more clicks, they can group, sort, and calculate data on their PCs. And even integrate it into popular Windows applications like Excel and Lotus 1-2-3.

NOW USERS CAN GENERATE **SQL QUERIES WITH THE** CLICK OF A MOUSE.

But as much as users like Impromptu, MIS departments like it even more. Impromptu saves countless hours on ad hoc user reports, letting MIS focus on more critical business issues.

"We have to supply the smallest, lightest product that we absolutely can," Hart emphasizes. To achieve this, finite element analysis can be performed using data from the HP ME30 package. Until recently, such analysis was performed manually, requiring initial data to be keyed into a separate analysis program.

Economy Of Time

Prior to the installation of the solid modeling system, the average time from design to market was a little over a year. "In order to remain competitive, we had to do better than that." Hart recalls.

Once the division decided to upgrade from conventional 2-D drafting and manual rendering, it contacted Eaton's Manufacturing Technology Center (MTC), the corporation's Cleveland-based manufacturing think tank. The MTC acts as a resource center, evaluating the uses of systems and processes within Eaton. It identifies and recommends hardware and software products currently available within the company and the industry.

The MTC also acts as a coordinator when a particular division within Eaton wishes to introduce a new system. In such

cases, MTC naturally wants to know why the new hardware and/or software software systems are required. This was the case when the Aircraft Controls Division proposed solid modeling — and the MTC concurred with the division's new automated engineering approach.

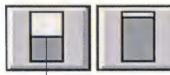
"We reviewed with MTC our need for HP's ME30 with the HP-DMS (Data Management System) package running on the Series 700 workstations," Hart says. He points out that the division required the solid modeling because of the complexity of their designs and the number of new products. In the first ten months of 1991, the division designed seven new products. "Just the sheer volume of new products would justify the system," claims Hart.

But there was another equally important consideration. "Our customers' environments are in solid modeling," Hart explains. "We'd been getting pressure from them to start supplying engineering information in intelligent graphics (IGES) format."

The division opted for the HP-DMS because of the critical nature of its products, Hart says. "We needed configuration control." For years, the division controlled inventory and sales orders on a mainframe using MAPICS. Data pertaining to drawing revision levels and serial numbers was manually entered into the system.

With the advent of electronic drawing and design, data man-

LANGUAGE FOR SQL.



Click to Average



Click to Count



Click to Find









REQUIRES NO KNOWLEDGE OF FRUSTRATING SQL LANGUAGE.

And Impromptu works with popular distributed databases—Sybase SQL/Server, Microsoft SQL/Server, Oracle, Rdb, InterBase, ALLBASE/SQL, or TurboIMAGE (using ALLBASE/Turbo CONNECT).

See for yourself why the Aberdeen Group calls Impromptu "the next level of automated programming." Just call 1-800-4-COGNOS, Ext. 81,

for your free demo diskette with product and pricing information, today. In Canada, call 1-800-361-3163.



Open Tools for a Changing World

U.K. +44 344 486668 • France +33 1 47 75 07 78 • Germany +49 69 666 6802 The Netherlands +31 3402 49199 • Belgium +32 2 725 1042 • Sweden +46 8 752 7795 Spain +34 1 556 0401 • Australia +61 2 437 6655 • Hong Kong +852 836 3239 Singapore +65 444 2988 • Japan +81 3 539 12400 • Latin America +407 471 0885

© 1992, Cognos, Incorporated. Cognos is a registered trademark and Impromptu is a trademark of Cognos, Incorporated. The other trade names referenced are registered, trademarked or service marked by their respective manufacturers.

Printed in the U.S.A.



In addition to HP's ME30 and DMS systems,

the Aircraft Controls Division is in the process

of incorporating SmartCAM.

agement provides a database to electronically control all drawings and revisions. HP-DMS also offers authority levels to let in or lock out those users authorized to alter designs.

In addition to HP's ME30 and DMS systems, the Aircraft Controls Division is in the process of incorporating Smart-CAM, a tool path generating program and coordinated measuring system.

Technicians programming SmartCAM to manufacture parts take information from drawings and enter the data into the machining program, which in turn generates a tool path. There is, however, a direct link between SmartCAM and the HP system. The design geometry in ME30 is passed onto SmartCAM,

which then automatically generates the tool path based on that data. By eliminating the need for machinists to input the information, this link is expected to save time.

"Since the solid model is an accurate geometric representation of the part, everything is there for the machining program to produce the part just as the model says it should be," Hart says.

The same geometric information is applied to measure the parts after they have been machined. Thanks to a Sheffield Cordac system that bristles with probes to check a machined piece on three axrs, there's no need for manual inspection. Manual inspection not only takes longer, but is subject to human error.

According to Craig Crossley, the division's business unit manager, "Our mission is to solve our customers' problems. To that end, we can now offer fast and accurate supporting engineering data electronically.

"We can respond in the most professional way," Crossley adds. "And companies that can do that open more doors to more markets." — Paul Benson is a South Orange, NJ-based freelance writer and photographer.

Would you like to continue to see articles on this topic?

Circle on reader card

ves 342 no 341

B

uild Your Computer Library

Find Answers to Your Computing Challenges in Back Issues of HP Professional

HP Professional has been answering important questions about HP computing for over 5 years. Now selected issues dating back to 1987 are available individually or in sets.

- Sets of all 38+ available issues
 - \$130 (US & Canada)
 - \$250 (Outside US & Canada)
- Single Issues
 - \$4 (US & Canada)
 - \$8 (Outside US & Canada)
- Call to order

ORDER BACK ISSUES NOW!

FOR FAST SERVICE
CALL GEORGIANN AT
(215) 957-4266
with credit card information.



101 Witmer Road, P.O. Box 616, Horsham, PA 19044-0616

All orders must be prepaid.

3096-10/90BI

WHEN IT COMES TO STORAGE, WE'RE A WAREHOUSE OF SOLUTIONS.



here's a million stories in the naked city of storage subsystems. On every corner, someone is touting their latest-greatest system. Which one is right for your application? If your road to storage solutions has turned down too many dead-end streets, turn to us.

We're R Squared. Systems integration specialists. Experts in prescribing storage and peripheral solutions for a broad UNIX-based clientele.

We stock a wide array of data-storage devices, including 3.5", and 5.25" disk drives; 8mm helical scan tape subsystems; 4mm DAT drive subsystems; optical disk drives; 1/4" cartridge tape drives and 1/2" reel-to-reel streaming tape drives. Plus, the R Squared Infinity Series Optical File System may be ideal for your application.

We're more than a warehouse full of buyer-takes-potluck peripherals, we're a warehouse of solutions. Our highly trained sales and customer support staff has extensive technical knowledge and experience. We'll provide the storage device that's precisely suited to your system. Then, we back it with the best pricing, service, delivery and customer support in the industry.

Before you venture into the lonely backstreets of storage, call for information and consultation on our complete product line. We have seven sales offices to serve you.

11211 East Arapahoe Road Englewood, CO 80112 303.799.9292 Fax 303.799.9297 e mail r2.com

800.777.3478

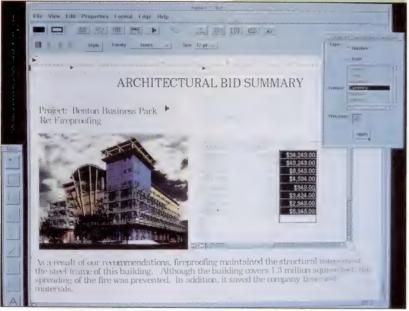




CWEET CUITE

Figure 1: Rapport's control panel includes menus and buttons to access its object-oriented features. Application buttons for word processing, art, spreadsheet, images and audio appear on the left side.

Clarity's
Rapport
Suite Of
Applications
Make
Multimedia
Documents
A Piece Of
Cake



Undoubtedly, the advent and acceptance of windowing protocols, GUIs and distributed, client-server architectures have revolutionized the way we do computing. I know that during a typical session, I could have half a dozen or more windows open running various applications on different platforms. I'm sure that power users out there can do much better than that.

Curiously, though, while multiple windows have dramatically changed my computing style, I find myself doing many things the traditional way. For instance, even though I'm working on one document as the final result, I'll have one window open to do word processing, another to work with a spreadsheet package, one for e-mail and maybe a fourth to work with a graphics application. A lot of cutting a pasting may have to be done between windows to get the final result. If I change anything (such as a worksheet, which then changes a pie chart), I must retrace steps, patch and repair to update the final document.

To compound matters, I'd like to send the entire document — text, worksheet, graphics — "the works," to users on the network who might have



By David B. Miller

completely different applications to handle these things.

Why shouldn't plunking a worksheet, a pie chart or an image in the middle of a document be as easy and as natural as starting a new paragraph? And why should I have to twist my document into a Philly soft pretzel every time someone else needs to have it?

Look No Further

Answers to these questions are coming from Clarity Software Inc. Its Rapport product for UNIX systems rolls a word processor, spreadsheet, presentation graphics, audio capabilities and electronic mail into one integrated package. We can only take a tip of the iceberg view of this suite of applications, but a description of what we could do with it should whet your appetite to go back for more.

We installed Rapport Version 1.13 on our HP Apollo 9000 Model 710 with 16 MB of memory and a 400 MB hard disk, running HP-UX version 8.07 and Motif. Rapport requires 45 MB of disk space. A minimum 16 MB of RAM is recommended.

Use

To provide an idea of Rapport's power and flexibility, we'll take you through a sample document, exercising many of Rapports capabilities and tapping its features.

Let's assume you need to write a memo or letter outlining the sales performance of your different sales territories. You want to include text (obviously), a worksheet, perhaps some graphs, some of your own homegrown artwork (you're a closet Picasso) and even a few audible words of praise to your highest achievers. (In this review, we won't include disparaging remarks aimed at the slackards.) Can that be done with one package? Let's see.

First, fire up Rapport with the rapport command. You'll soon see the Rapport window and control panel as shown in *Figure 1*. In addition to the "standard" menus that you've become accustomed to using in Motif-based applications, the control panel's first row has icons for



hy shouldn't plunking a worksheet, a pie chart or an image in the middle of a document be as easy and as natural as starting a new paragraph?

each basic function, such as word processing, art, spreadsheet, images, audio and mail. The menus and control panel will change depending on which application you're using.

We'll start with the word processor to type the memo's text. All the bells and whistles you'd expect from a package like this are present. Changing items such as justification, font, point size, etc., are only a few mouse clicks away. Text color also can be changed easily so that you can fully emphasize those high and low points to your salespeople who also have access to color monitors. You can establish standard styles for paragraphs and documents so that your correspondence retains a consistent look.

After typing your initial paragraph, you want to whip up a quick worksheet and a bar chart to highlight each region's profits. Nothing too detailed, just some basic solid information.

After placing the cursor where you want the spreadsheet to start, clicking on the spreadsheet button creates a spreadsheet object with rows and columns into which you type your sales data. Everything you'd expect in a full-blown spreadsheet program is available. In no time, you've finished the worksheet outlining your region's profit data.

You want more. A chart would be nice. Rapport doesn't short-change you here either. The spreadsheet's chart option lets you create all your favorite graphs. You decide to create a bar chart displaying the manager's name and profits for each sales region.

You create these graphs using methods learned by using similar spreadsheet tools. After positioning the cursor, a mouse click positions the chart. You also decided to use the Paste Linked option to place the chart in your document. That way, if you change your worksheet for any reason, Rapport will automatically update all the charts that are affected.

After a few more words of praise and encouragement, you decide to dramatically lighten the tone of your memo. Although you flunked stick-figure drawing in Art 101, you can't resist the inclusion of some artwork in your memo to express how pleased you are about the company's progress.

Clicking Rapport's Art button creates space for some free hand drawing. You're able to muddle your way through a bright yellow happy face at the end of your memo using the shapes available from the Art Tool and Color palettes. This will be much appreciated by your salespeople, you reason to yourself.

Sending Forth

Okay. You're ready to distribute the memo. Printing to a Postscript printer is an easy way to produce the final product. But, you need to go one better than that. Sales managers in each region want an online copy so that they can make some comments and send their replies back to you.

Rapport's mail system, based on

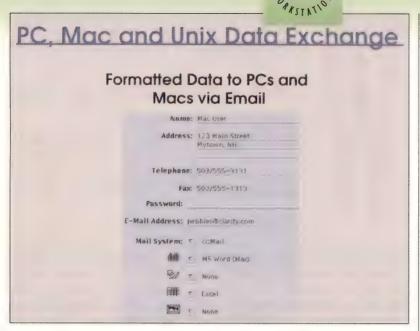


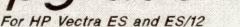
Figure 2: This sample address book entry shows how a PC user needs to receive the various parts of a Rapport document.

UNIX sendmail, and a host of optional format conversion modules, can be employed so that your memo not only is sent to other Rapport users, who receive the memo complete and intact, but it also can be sent to your salespeople who might be running on other platforms with different systems to handle mail, spreadsheets, text, graphics and so forth.

Before sending your memo, you double check your personal Rapport Address Book, which contains profiles of each recipient. A sample profile is shown in *Figure 2*.

In addition to address information for each user, you also check to make sure that your memo is handled according to each recipient's special requirements. For example, you realize that Rapport hasn't been deployed to all of your UNIX systems and not everyone has a graphics package to handle the artwork you've in-

Upgrade



The RT386SX-2 is a complete motherboard replacement designed specifically for the HP Vectra ES and ES/12. The processor is a 20 MHz Intel 80386SX with a Chips and Technologies chip set. Keyboard connectors, power connections and the shape of the upgrade board are identical to the Vectra mother board being replaced. The board supports up to 8 MB of RAM using 70ns SIMMs. Pricing starts at \$699 plus memory. Call today for more information and volume discounts.

MORE SPEED - Up to 2.5 times faster
MORE APPLICATIONS work better, faster
MORE USEFUL LIFE for your Vectra
LESS MONEY than buying new equipment

OREGON DIGITAL
COMPUTER PRODUCTS, INC.
885 NW. GRANT AVE., CORVALLIS, OR 97330

Call for more information

1-800-854-5678

FAX: (503) 758-8451

All brand and product names are trademarks or registered trademarks of their respective companies

CIRCLE 489 ON READER CARD

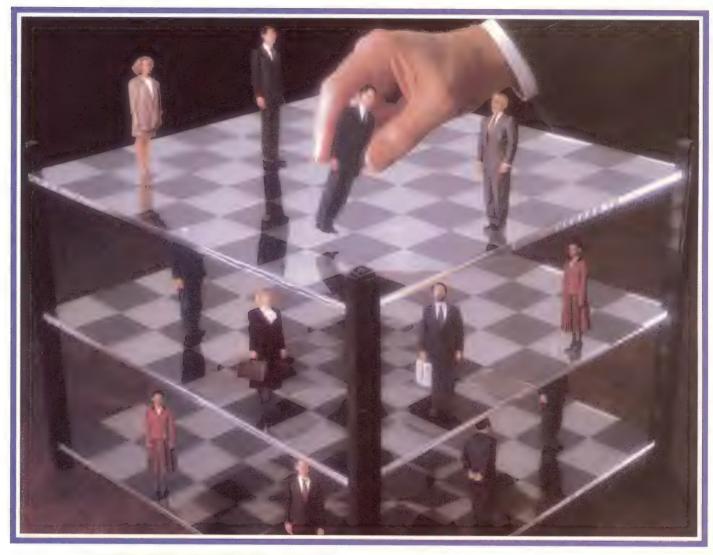
HP Professional Postcard Decks

- Reach over 35,000 HP and HP/Apollo Computing Pros
- Three 1992 Decks -January, April, September
- Call Mary Browarek at (215) 957-4225 to reserve your card.



3094-05/92PC

YOU CAN'T KEEP THE COMPETITION IN CHECK UNLESS YOU ANTICIPATE ALL THEIR MOVES.



FOCUS FROM INFORMATION BUILDERS: Nothing Else Lets You Analyze And Utilize Mission Critical Information From Any Database On Any Platform.

for end-user computing and application development.

DO ANYTHING WITH INFORMATION

UNMANAGEABLE DATA WILL NEVER BE INFORMATION

If only there was a way to work with different DBMS, on different platforms, with a single set of software tools.

A way to develop applications using all your data, no matter where it is, to run transparently on any platform.

A way that avoids system bottlenecks and fully utilizes

A way that avoids system bottlenecks and fully utilizes your information investment, so that mission critical never becomes mission impossible.

THERE IS A BETTER WAY

It's called FOCUS from Information Builders. The specialists in distributed information systems.

And with more than one million users in every one of the Fortune 100, FOCUS is the number one 4GL

FOCLIS is powerful enough to provide decis

FOCUS is powerful enough to provide decision support features like business graphics, spreadsheets and the best report writer in the business. With an unmatched ability to control and integrate critical information systems within your enterprise, FOCUS lets departmental users maintain applications that meet their requirements.

YOU WANT IT, FOCUS CAN CREATE IT

With comprehensive built-in tools you get the flexibility to develop anything from highly structured

data management applications and decision support systems, to simple ad hoc queries and reports.

With FOCUS, data becomes information, and isn't that exactly what you've always wanted?

So let your competition make the wrong moves while you make the winning one.

For more information on FOCUS and how it can fulfill all your data management needs or to attend a FREE Seminar...

Call 1-800-969-INFO

In Canada call 1-416-364-2760

FOCUS Information Builders, Inc.

CIRCLE 247 ON READER CARD

FOCUS is a Registered Trademark of Information Builders, Inc., 1250 Broadway, New York, NY 1000



cluded in your memo. Additionally, you need to put the worksheet portion of the memo in Lotus .WK1 and Microsoft Excel formats for some folks using PCs and MACs, while others may not have a spreadsheet at all.

Rapport analyzes the profiles for each

mail recipient and converts the memo and all of its parts (text, worksheet, chart, artwork) accordingly. For example, sending the sample memo to a user on our HP 9000/834 who only has UNIX mail on his system produces a message with a text description of what would normally

appear there if the recipient were running Rapport.

Rapport's converters can handle many scenarios. For example, if you wanted to mail this memo to a PC user who runs cc:Mail, Wordperfect, Microsoft Windows 3.0 and Lotus, Rapport would break your memo into parts and create separate files for text, graphics and worksheet, each in the target format specified in your Address Book's recipient profile.

Getting Attached

One problem you face is that some of your work is done in other packages. For

Rapport Version 1.13

Features:

- Several robust business applications rolled into one package.
- Bounce effortlessly between multiple applications in the same multimedia document via Rapport's object-oriented architecture.
- Converters allow non-Rapport users to send and receive documents in their native format.
- Third party applications can be attached to Rapport to fully customize your environment.
- Optional FAX server to be available in June 1992.

Price: \$895 per seat

Platforms: HP 9000/300, 400 & 700 series workstations running HP-UX 8.07 or later and Motif. Many other UNIX platforms are also supported, including DEC Ultrix and IBM AIX.

Clarity Software, Inc.

Headquarters:

2700 Garcia Ave. Mountain View, CA 94043

Communications: (415) 691–0320 (415) 964–4384 (fax)

Product Line: Multimedia, multiplatform office applications

Circle 306 on reader card



EVEN WHEN YOU HAVE ALL THE ELEMENTS, YOU'RE STILL AT THE MERCY OF THE ELEMENTS.

Even when you've found the perfect pears and perfect wine, there's still the possibility that it's going to rain on your picnic.

At WTW, we're helping a number of businesses overcome the same kind of problem through information technology consulting. Our services include Systems Integration, Project Management, Custom Programming, Rightsizing, and Information Technology Strategic Planning.

Choosing the right systems integrator, of course, is no picnic. So, before you run the risk of a costly mistake, give us a call. Perhaps we can keep you from getting soaked.



WESSON, TAYLOR, WELLS & ASSOCIATES, INC.

P.O. Box 23587 • Columbia, SC 29224 • 1-800-833-2891 Offices In: San Francisco, Valley Forge, Raleigh, Charlotte, Atlanta

MPF/iX

POSIX

All of them.

After all, we're HP experts. For more than 16 years, we've been designing our World Class Series Accounting, Payroll and Human Resource systems to support all of HP's commercial platforms.

If your company is using more than one operating system, that should be especially good news.

We cut our teeth on Classic. Then introduced the first accounting and human resource package for HP's RISC-based architecture in native mode under MPE/XL.

Which is the best HP platform for Collier-Jackson's World Class Series™ software?

Today, our software is completely portable across HP's <u>UNIX</u>-based and <u>POSIX</u>-compliant operating systems.

HP-UX and MPE/iX.

That means you can begin enjoying the advantages of open computing today. Not tomorrow.

There are other advantages, too. For instance, we give you the ability to use powerful user interfaces like Microsoft's Windows and OSF/Motif. And your employees will only need to learn our applications once.

So, if you're looking for a total accounting, payroll and human resource solution for your company, talk to the vendor that understands your HP hardware. Inside and out.

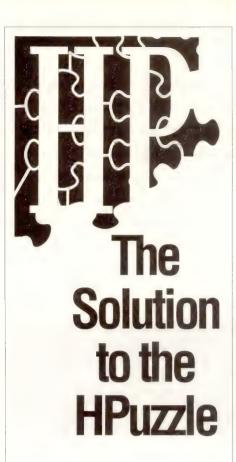
To find out more about Collier-Jackson's World Class Series software, call 813-872-9990 today.

CompuServe

Collier-Jackson

Get a demo at Interex – Booth 429

World Class Series is a trademark of CompuServe/Collier-Jackson. All other product names mentioned herein are for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.



With HP systems and peripherals, HP compatible equipment and accessories at competitive prices, why call anywhere else? HP3000, 1000 & 9000, along with the experience, the reputation, and the service you deserve whether you're buying, selling, or trading HP

equipment call – 800-882-0201





11421 NE 120th Street, Kirkland, Washington 98034 **206/820-6500** FAX: 206/820-6565

HP is a registered trademark.

CIRCLE 101 ON READER CARD



example, you've got a lot of worksheets that were created by Informix Wingz. How easy can they be incorporated into a Rapport document?

Rapport provides the capability to have other applications attached to it. This will allow you to launch Informix Wingz, for example, from within a Rapport document. Several popular packages are already "registered" with Rapport for use inside a Rapport document. These include Informix Wingz, AutoCAD, FrameMaker, Interleaf, the Island Graphics products, Lotus 1-2-3 and WordPerfect.

A special Applications menu is used to select the "foreign" package. An object is created for that package in the document at the current cursor location. After that, double-clicking the object will invoke the application. We successfully attached Informix Wingz to Rapport and were able to create worksheets and charts directly from within the document on which we were working.

Untested Waters

If only you had received your audio equipment for your HP 9000, you could have recorded "CONGRATULA-TIONS!" in your own voice to be heard by anyone who had similar capabilities on the receiving end. Again, Rapport's object-oriented nature lets you attach an Audio object anywhere you want in your memo — to a piece of text, an image, a

worksheet cell, wherever you want the comment to occur.

Also, when the new company logo is finalized, you'll scan that in and make it available through Rapport to anyone in the company who needs to incorporate it into their documents. Finally, next week, you'll be able to use Rapport's slide presentation capability to put together a proposal for some potential new customers.

The idea that I could create a document in which adding a worksheet or an image or some artwork just as naturally as typing text really impressed me. Many of us are capable of using a variety of software packages, but being able to access them all in one application is a real advantage. Rapport makes multimedia documentation an easy-to-achieve reality. Its ability to convert documents to many popular formats and make them available via e-mail makes it an interoperability champ. Being able to attach other packages in addition to or in place of some of Rapport's features provides chameleon-like flexibility.

We all know how fast workstation performance is increasing while prices tumble. But many of us not in the scientific or engineering fields might have wondered what everyday office and business applications were available to run on that blazing hardware. Now we know.

UNIX is a registered trademark of AT&T in the U.S.A. and in other countries.

MS-DOS is a trademark of Microsoft.

Macintosh is a trademark of Apple Computer Inc.

X Window System is a trademark of MIT.

Microsoft is a registered trademark of Microsoft Corp.

NewWave is a trademark of Hewlett-Packard Co.

ON WILL

ON

SPEEDINA CORPORATION WILL

SPEE>VVARI

The High Performance 4GL for HP3000's and HP9000's

Speedware's object oriented application development technology will allow your organization to develop mission critical applications faster and more efficiently than ever before. Thousands of HP Customers realize these benefits, today.

We'll give you up to \$20,000* to prove it.

Don't miss this opportunity to invest in the future. Invest in Speedware.

We'll give you 100% credit* on the original value of your QUIZ™ purchase.

Call Today

In Canada: (416) 408-2880 (collect) In California: 1-800-447-0744 Outside California: 1-800-447-0745

* Maximum \$20,000 rebate on your next Speedware purchase. Proof of Quiz purchase necessary. Offer valid until August 31, 1992. Quiz and Powerhouse are registered trademarks of Cognos Inc. Speedware is a trademark of Speedware Corporation.

erformance D1006

Get All The Information You Need About Your System
With This Performance Monitoring Package From Strategic Software

The commercialization of UNIX has created the need for many tools and features commonly found on operating systems that were designed for the commercial market from the ground up. For example, UNIX and security were rarely uttered in the same breath. Another area that's been in need of attention is system and performance monitoring tools.

Probe/X, from Strategic Systems Inc. (Seattle, WA), provides a variety of tools to help you obtain a picture of what your system is doing and what resources are being consumed. It can help you track down and resolve system bottlenecks as

well as help you do capacity planning and performance analysis.

Installation

We installed version 2.02 of Probe/X on our HP 9000/834 running HP-UX version 8.0.

Installation was a breeze. An install script takes care of most tasks for you. The only decision you have to make is whether or not you want to load the driver that handles response time and disk I/O information. You also must call Strategic to obtain a user license key.

There are more than 30 displays of in-

By David B. Miller



PLAN-B HAS THE POWER TO BACK IT UP



AUTOMATIC PC BACK UP FROM QUEST SOFTWARE

Plan-B provides a new concept in network backups. PC Backups are initiated and managed by the HP host even while the PC users are running applications. With Plan-B, the backup of your entire network is automated from a single point.

Central control means that this extremely powerful tool gives you the freedom of choice in storage technology and enables you to reduce operating and resource costs.

And now, Plan-B integrates with HP's OmniBack products to provide a total backup solution for both UNIX and DOS based systems.

Since Plan-B supports LAN Manager, OfficeShare, and NetWare environments, unattended global network backups are now a reality.

FOR ADDITIONAL INFORMATION OR A DEMONSTRATION TAPE CONTACT:



Quest Software, Inc 610 Newport Center Drive, Suite 890, Newport Beach, CA 92660 Phone: 714-720-1434 Fax: 714-720-0426

In Europe Contact:
System Software (Int.) UK (44) 0905 794646
ORBiT (33) 40 25 16 50 France
(49) 30 852 7097 Germany
(31) 2979 11468 (Benelux) B.V.
(45) 42 335959 (Scandinavia) AB
(93) 280 32 54 Spain





formation you can generate with Probe/X. We'll go into a few of them to give you an idea of the level of system and performance detail you can acquire.

Although you don't have to run Probe/X as superuser, doing so is a good idea for three reasons. First, you can run Probe/X with a nice value that allows it to monitor systems even while high priority processes are running. Second, Probe/X will temporarily activate system accounting to provide the necessary process termination information. Third, only the superuser can activate the special response time driver.

Use

Getting Probe/X running is as simple as typing "probex" at the system prompt. Probe/X supports X-windows displays as well as ASCII terminals that do VT100 emulation.

In addition to displaying information on a terminal, data can be logged to disk and used as input to other programs for analysis. Log record formats and a C language header file are documented in the Probe/X manual. A logging information file is needed to govern Probe/X's logging behavior, such as the length of the measurement interval, the duration of the logging and what type of data should be logged.

Logging can also be done in the background. You can set Probe/X up to run at any specified time, collect the data you need and exit.

Probe/X's screens are easy to get around. Context sensitive help can be gotten by pressing the "?" key on any screen. Entering "h" on any screen displays the list of available "hotkeys" that you can use to access any of Probe/X's various screens.

What kind of information can Probe/ X provide? Here are summaries of the major categories.

Global information. The "big-picture" stuff. The Global screens provide an overall view of what's happening regarding processes, memory, terminal activity, user activity and response time measurement. This is a good place to

ackages such as

Probe/X go a long

way in helping system managers get

more out of their systems in
a rather painless fashion.

start. You can work with more detailed screens after you determine what major areas need attention.

Process information. One line of data is displayed for each process. You can control whether or not you want to view system processes and processes which were not active since the last time Probe/X displayed new data. Probe/X uses screen attributes to indicate swapped out, new or recently dead processes. You can also display screens that highlight particular process activity such as CPU, I/O and memory use and process response time.

Detail information. Let's say you need to track a particular process. The Detail screens provide statistical, file access and memory information for any one process. In addition to system managers, this feature could be used by program developers trying to write efficient code and how need to monitor the behavior of a single process.

I/O information. A screaming CPU doesn't always provide the best performance, especially if your I/O subsystem is suffering. Probe/X's I/O information displays let you look at disk and tape. You can monitor the effectiveness of your buffering and caching schemes. Filesystem use and I/O activity level can be scrutinized. You also can get valuable information on your network devices and their performance.

System information. These screens provide information on system tables, device configuration, file space and storage utilization.

Probe/X's documentation is clear and understandable. It's also a good learning

tool for performance non-gurus who need to interpret what Probe/X's displays are telling them. Context-sensitive help is also available from within Probe/X, just by pressing the "?"

Growing up learning and using another operating system that starts with "V" and ends in "S," I just assumed that the kind of performance and system monitoring tools available there would be available on any serious operating system. When I dove into UNIX, I quickly realized that there were a lot of neat tools, but some of them were hard enough to *find* let alone use.

Packages such as Probe/X go a long way in helping system managers get more out of their systems in a rather painless fashion. There's no need to remember several utilities or to have to poke around the various and sundry UNIX configuration files. The common interface makes using Probe/X easy.

System managers and developers alike will benefit from having Probe/X available to them.

Probe/X

Price: \$495 to \$3,595, depending on CPU.

Platforms: HP 9000, IBM RS/6000, SCO 386, SCO MPX, SCO ODY, Interactive, Sun SPARC compatibles.

Features:

- Easy to install and use.
- Overall and detailed information can be displayed.
- Should be a real help for managers and developers alike.
- Logged data can be used as input into analysis software.

Strategic Software Group, Ltd.

11050 5th Avenue N.E., Suite 101 Seattle, WA 98125 (206)362-2231 (206)362-2177 (fax) uunetlssgltdlsales sales@ssgltd.com

Circle 307 on reader card

Why not the best?



HP 1000,
HP 3000, &
HP 9000
150 Megabyte
& 2 Gigabyte
Streaming Tapes
Unattended backup
of all your data on a
single ultra-compact
cartridge.
Media translation &
SSS update service
available

Also available:

HP 1000 Memory Expansion

Improves system performance. Free evaluation. 512 KB to 32 MB expandable cards. 2 year warranty

High Performance SCSI Interfaces for HP 1000, HP 3000, & HP 9000

Superior to IEEE-488. Used with all Herstal Automation peripherals

HP 1000 & HP 9000 Disc Drives 65 MB to 638 MB. 30,000 hour MTBF.

Up to 7 drives per interface

HP 1000 & HP 9000 Optical Discs

1 Gigabyte Erasable and "Write Once". Ideal for information retrieval and archival data storage

Ramdisc/1000 Speeds up file access

Superclock/1000 Automatic time & date



"I promise you no service hassles, no matter who is servicing your HP system."

Rick Walsh President



HERSTAL

AUTOMATION LTD.

3171 West Twelve Mile Road Berkley, Michigan, USA 48072

Telex 650-321-1560 FAX 313-548-2010 Phone 313-548-2001



A New Paradigm For HP 3000 Customers

Your relationship with HP is changing, whether you

like it or not. If you use the HP 3000 and TurboIMAGE, it is time for action. A Hewlett-Packard executive — I think it was Rich Sevcik, general manager of the Commercial Systems Division — made this comment at the INTEREX conference in San Diego last August. Events since then demonstrate that the phrase fits HP better than it fits Oldsmobile. What it means to you, the HP 3000 customer, is that a new paradigm (the new HP loves that word; the old HP would never use it) is necessary in your relationship with Hewlett-Packard.

In his address to the same INTEREX conference, HP's Lew Platt introduced the acronym OILUS, the first letter of which stands for the goal of making ordering HP products easier. "Wouldn't it be nice to order our products easily?" Platt asked the audience. Those in attendance applauded long and loud.

So What's New?

Has the product ordering relationship changed? Most certainly. Can we order HP products more easily? No.

I work in the Philadelphia area. Since at least the mid-'70s, HP has had a large, active local field sales office. That is, until last fall. For several months, I had been talking with an individual in the local office about migrating to HP PA. One day I called to ask some questions and was told the person no longer worked there, but someone would call me back soon. Okay, I thought, people leave companies all the time. When I got the call back I was told that as part of the sales re-organization, our account would now be handled through telemarketing out of Rockville, Maryland — three hours

away! Over the next few weeks I learned that several other people I had known for years also were no longer working for HP.

At about the same time, I was thumbing through the HPDirect catalog and noticed that it was out of date. [Started around 1982 with great fanfare, HPDirect was a direct-mail catalog operation with everything from calculators and supplies to terminals and manuals.] I asked an administrative assistant to call and request a new catalog. The result? Like the people in the local office, HPDirect no longer exists. It has been replaced by the Supplies and Accessories Reference Guide, which is only a shadow of the old HPDirect.

So What Gives?

I had the opportunity to talk with Manuel Diaz, general manager of CSO/ Americas; Sharon Jacobs, manager of Direct Marketing; and Penny Thayer, manager of Business & Channel Development, Direct Marketing Organization, about the changes in HP sales and marketing. Allowing for my probably-nottotally-objective interpretation, here is what they had to say.

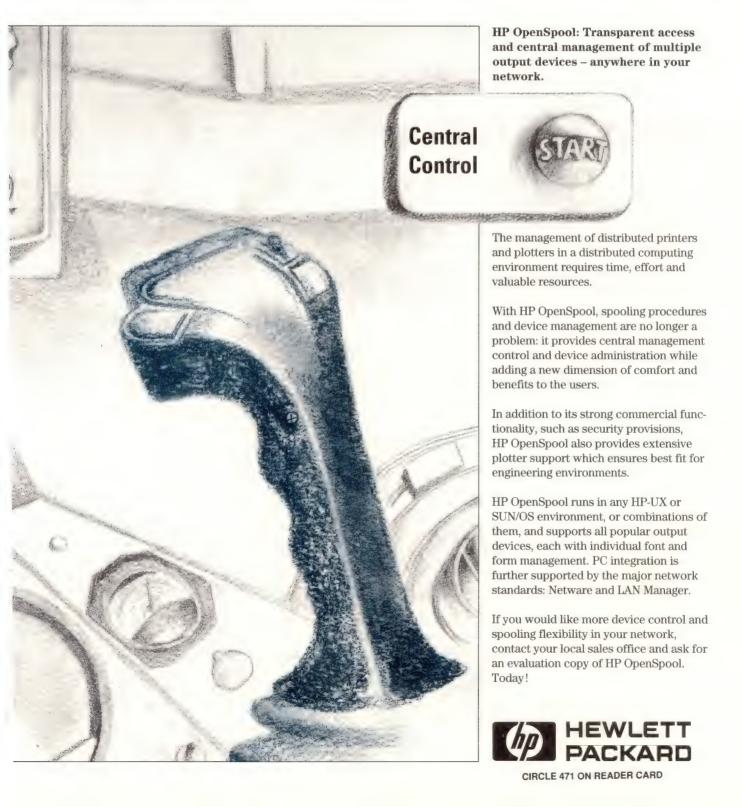
Last fall, the sales organization was restructured to target specific markets and specific classes of customers. Sales used to be organized along product lines. A salesperson might try to sell to a manufacturer one day and a retailer the next. Under the new paradigm, sales people will be more narrowly focused on a particular market segment in order to better know the customers' specific needs and applications.

At the same time, HP decided to focus on major, high-visibility accounts. It's the trickle-down approach. If you have a few high-profile accounts, it becomes much easier to sell to the smaller accounts and sign up VABs — a variation of follow-the-leader. Large accounts also are more profitable, with a higher return per sales effort.

Additionally, HP had been under pressure from the Wall Street walletheads to reduce its head count, and this was a factor in the downsizing of marketing



Print Management Networkwide. Simple.



and the elimination of HPDirect. I was told that HP has worked hard to establish its products in various independent distribution channels and that these resellers were objecting to having to compete directly with HP. [A new cata-

log, the Business Computer Catalog, which covers some of the same areas as the old HPDirect, was scheduled to appear May 1. As of May 15th, I had not yet seen a copy so I cannot comment.]

All vendors, not just HP, struggle with

how to handle existing accounts. Once the initial sale is made, it is often several years before another significant purchase is made. Commissioned sales people are not going to spend much time with an account that is only going to generate a disk drive or a few PCs. Telemarketing is seen by HP as a cost-effective way to handle the smaller members of the installed base.

So where does all this leave the existing customer? For now, it leaves you with telemarketing for larger purchases and with distributors, business suppliers, computer stores, and so on, for small peripherals and supplies. It also means that you must be more proactive and demanding. Don't wait for HP to call you, because they probably won't. Unless you are a heavy hitter (read: Fortune 500), you are going to have to rely more and more on publications such as HP Professional to find out what your vendor is doing technically and strategically.

Platform Dilemma

HP has caught itself in a trap where its greatest strength — the same hardware engine driving an extensive and diverse product line — also becomes a liability. To promote HP-UX, it must sell against its own MPE/iX.

I know of two Philadelphia-area companies, HP 3000 users since the '70s, who are switching to UNIX. One is a done deal and is happening as you read this. The other will happen as soon as the business climate improves. The decisions were more political than technical, with outside consultants (drooling no doubt over potential fees) singing the siren song of UNIX and going over the head of MIS management to the executive suites. Both companies are staying with Hewlett-Packard and converting to HP-UX — so if you look at the HP big picture, things look pretty good. From the perspective of current HP 3000 customers, things are decidedly less rosy.

HP has done an excellent job of protecting its customers' investments in MPE. Of course, as I have pointed out before in this column, MPE V support is

"We Saved 53 Days On A 61 Day Project Thanks To S/COMPARE-HARMONIZER™"

Sound Unbelievable?

That is the actual experience of an S/COMPARE-HARMONIZER user as described in a leading industry publication. (We would be happy to give you more details.)

ALDON Computer Group's S/COMPARE-HARMONIZER is an easy-to-use software integration system that simplifies the process of applying custom changes to new releases of packaged software.

S/COMPARE-HARMONIZER users say it can save you 70% to 80% of the time your programmers have to spend on the tedious task of identifying custom changes and integrating them into new releases.

S/COMPARE-HARMONIZER is also advocated by programmers and auditors for the purpose of ensuring adequate change control. It provides you with a simple method to create documentation of all changes you make to source code.

ALDON Computer Group is an industry leader in producing software quality assurance and change management tools. The firm was founded in Oakland, California in 1980. Today, ALDON products are in use worldwide at over 1200 sites.

See For Yourself.

S/COMPARE-HARMONIZER can be as valuable to you as it has proven to be to so many other HP3000 MPE and MPE XL users. Call us today for your free trial and then start planning what you will do with all the time you save.



401 15th Street Oakland, CA 94612 (800) 825-5858 (415) 839-3535 FAX (415) 839-2894



CIRCLE 163 ON READER CARD

s MPE dying?

Will it still be viable in the year 2000?

The answer, again, is up to you.

one of the all-time great examples of a cash cow. Support will continue so long as there are sufficient customers, a critical mass, willing to pay. The same caveat applies to MPE/iX.

Over a year ago, I wrote that only two midrange, proprietary operating systems were sure bets to be around in 2000: OS/400 and VMS. I made this prediction not because these are better than all the others, but because they, like the languages COBOL, FORTRAN and RPG, have achieved the critical mass necessary for long-term survival. I said MPE could go either way depending upon how hard and how well it is marketed. Everything else is doomed. Events of the last year or so only strengthen my opinion.

What HP has accomplished with PA-RISC is simply amazing. With the introduction of the HP Corporate Business Systems, PA-RISC bolsters its claim of spanning the largest range of RISC-based systems in the industry: from the \$4,990 705 diskless workstation up through the mainframe-class Corporate Business Systems. Furthermore, HP execs confidently claim systems in the pipeline that will continue the tradition of PA-RISC as the price/performance leader.

But, and this is a big "but," since this is a column on the HP 3000, there are two storm clouds on the horizon: MPE/iX does not span the entire range of PARISC offerings, and HP seems loath to push MPE/iX.

There was a time when the HP 3000 was the flagship system for Hewlett-Packard. No more.

The smallest platform currently supporting MPE/iX is the 917LX, which, for a usable configuration, is a \$20,000 system (without any software). This does not compare well with low-end UNIX, VAX or AS/400 multiuser systems or networked PCs. Part of the problem is technical since, and there is no pretty way to say this, MPE/iX is a memory pig and all that memory costs money. The other part of the problem appears to be the mindset of those in Cupertino who do not see a need for a true low-end/desktop MPE/iX system.

One Choice Is No Choice

Just as there is room for Cobol, FOR-TRAN, RPG, C, and so on, there is room for both HP-UX and MPE/iX. However, since HP seems to be going out of its way to be impartial, it is up to users of the HP 3000 to be proactive (that word again) and promote MPE/iX as the industrial-strength operating system it is.

F. Alfredo Rego, of ADAGER renown, is circulating an excellent monograph through SIGIMAGE channels called "Is IMAGE dying? Who cares?" in which he proposes a simple ABC action plan to promote IMAGE since HP will not. Rego writes:

"You can help tip the balance, which is now overwhelmingly biased against IMAGE, by annotating the good things that IMAGE has to offer and the bad things that plague non-IMAGE would-be panaceas (point A), by broadcasting your insights (point B), and by cooperating with SIGIMAGE and the Hewlett-Packard IMAGE Laboratories (point C).

"Is IMAGE dying? The answer is up to you."

Is MPE dying? Will it still be viable in the year 2000? The answer, again, is up to you. — John P. Burke is the system manager for Construction Computer Center, Conshohocken, PA.

Would you like to continue to see articles on this topic? Circle on reader card yes 344 no 343

I/O BOTTLENECKS? SYSTEM PERFORMANCE PROBLEMS? SOLID STATE

IS THE SOLUTION.

Did you know?
Your CPU can
execute over 100,000
instructions in the
time it takes for one
disk I/O. Find out
how a DES SSD
will dramatically
increase your
system's
performance.

Call 408/727-5497 or fax 408/727-5496 today for more information.



- Less Than 1ms Total Access Time
- Reduce User's Response Time
- Shorten Batch Job Processing
- Add More Users Without CPU Upgrade



Disk Emulation Systems, Inc. 3010 Scott Blvd. Santa Clara, CA 95054 408/727-5497

CIRCLE 459 ON READER CARD

ADVERTISER INFORMATION

If you'd like more information about the products from the companies listed below, circle the appropriate number on the reader information card. This index is provided as an additional service. The publisher does not assume any liability for errors and omissions.

• • • • • • • • • • • • •

ADAGER

The Adapter/Manager For IMAGE/3000 databases allows the manipulation of database objects with a wealth of action. *Call (208) 726–8191 or circle 104*.

ALDON COMPUTER GROUP

Change management, quality assurance and program testing software. S/COMPAREHARMONIZER, ANALYZER *Call (800) 825-5858 or circle 163.*

BERING INDUSTRIES

Removable mass storage solutions, including hard disk drives, magneto-optical erasable drives, and high-capacity tape back-up for HP 3000/9000/1000 computers. Call (800) 237-4641, (408) 379-6900 or circle 105.

BRADMARK TECHNOLOGIES INC.

Your total HP3000/IMAGE database solution that includes: DBGENERAL, the most complete general-purpose database utility available in the HP3000 market. And SUPERDEX, the fully compatible indexing package that provides unprecedented data retrieval speed and flexibility. Both are reasons why Bradmark is committed to provide premier data management solutions. Call 1-800-ASK-BRAD or circle 108.

CAMINTONN CORPORATION

100% compatible memory for HP 9000, IBM RS/6000, Sun SPAR Cstations and other workstations. *Call (800) 843-8336 or circle 294.*

CLEARPOINT RESEARCH CORP.

4 and 12 MB compatible add-in memory for HP 9000 series 350/370 and Apollo Domain 4000 series. Call (508) 435-2000, (800) CLEARPT or circle 151.

COGNOS CORPORATION

Cognos provides application development software for HP MPE V, MPE XL and HP-UX platforms. Call (800) 4-COGNOS or circle 261.

COMPUSERVE/COLLIER JACKSON

Compuserve/Collier Jackson serves as a Hewlett-Packard Premier Solution Provider for the HP 3000 Series of midrange computers. Its products include financial accounting and human resource management systems for cross-industry business applications as well as newspaper systems for circulation, business and advertising management. Direct inquiries to: Gary Vigneau, vice president of sales and marketing at (813) 872-9900 or circle 111.

COMPUTECH SYSTEMS CORP.

The complete line of HP 3000, 1000 and 9000 equipment, compatibles and accessories. Call (800) 882-0201 or circle 101.

CONTEMPORARY CYBERNETICS

Contemporary Cybernetics manufactures a complete family of backup systems that range in capacity from the 150 MB QIC streamer to a 2 TB cartridge handling system. *Call (804) 873–0900, FAX (804) 873–8836, or circle 112.*

CUMULUS TECHNOLOGY

Terminal compatible with HP 700/92 and 700/94. 40% bigger display. Two models, HCT or CET. Five year Continental USA warranty. Free demo. 1007 Elwell Court, Palo Alto, CA 94303 *Call* (415) 960-1200 or circle 242.

DATARAM CORPORATION

High-performance memory add-ins for HP 9000/345-375-380-400, HP9000/350-370, HP9000/360, HP9000/340, DN30x0, 3500, 4000, 4500, DSP 3000, 4000 Series workstations and servers. High quality and reliability at low prices. Call (800) 822-0071, in NJ (609) 799-0071 or circle 240.

DISK EMULATION SYSTEMS

Ultra high performance SOLID STATE STORAGE sub-systems provide solution to I/O performance bottlenecks. Transaction rates in the thousands create system wide performance gains that reduce both user response time and batch job processing times from 50-500%. Call (408) 727-5497, FAX (408) 727-5496 or circle 459.

EQUINOX SYSTEMS INC.

Intelligent Data PBXs provide reliable solutions for secure connectivity between multivendor host computers, terminals, PCs and peripherals. *Call (800) 328-2729 or circle 115.*

HERSTAL AUTOMATION LTD.

Reasonably priced data storage subsystems with performance in mind. Call (313) 548-2001 or circle 119.

HI-COMP AMERICA INC.

Backup for MPE V, MPE XL and HP-UX. Highspeed execution, high-density data compression, unattended disk to disk operation and IMAGE database management. *Call (800) 323-8863 or circle* 120.

IEM INC

Affordable hardware solutions, from memory boards and interface cards to the latest in optical disk technology. Call (303) 223-6071, (800) 321-4671 or circle 122.

INFORMATION BUILDERS INC.

4GL/DBMS for HP MPE XL and HP-UX systems offering application development, reporting and decision support. Supported on all major platforms. *Call (212) 736-4433 or circle 247.*

INFOTEK SYSTEMS

Leading manufacturer of high-performance HP enhancements including memory, BASIC compilers, data acquisition boards and digital signal processors. Call (800) 227-0218; in CA (800) 523-1682 or circle 181.

ISA CO. LTD. / TEXAS ISA INC.

Complete range of mass storage devices and other peripherals for HP 3000, 1000 and 9000 from ISA. Call (713) 493-9925, FAX (713) 493-2924 or circle 245.

KELLY COMPUTER SYSTEMS

Manufacturer of performance products: RAMDISC, Spectrum memory, Classic memory, and PC and LaserJet memory. CPU upgrades also available. *Call* (415) 960-1010 or circle 185.

KINGSTON TECHNOLOGY CORP.

Kingston Technology designs and manufacturers memory upgrades for PCs, laptops, workstations and laser printers. The Kingston product line also features mass storage subsystems and processor upgrades. *Call* (800) 835-2545, FAX (714) 435-2699 or circle 281.

MARTECH

Highest quality solutions at the lowest price available. Complete line of memory products for HP 9000, 3000 and 1000 computers. Also RAM for Apollo Domain Series 2500-5500. Ship from stock. Call for your pricing today! Call (800) 582-3555 or circle 220.

M.B. FOSTER ASSOCIATES LTD.

Utility software supplier, specializing in PC/mini integration, EDI software and customer service and support. WRQ distributor. *Call (800) ANSWERS or circle 155*.

NEWPORT DIGITAL CORP.

Accelerator cards for HP 9000 Series 200 plus HP 310 and HP 320. Ten-fold performance improvement. *Call (714) 730-3644 or circle 246.*

O'PIN SYSTEMS

REVEAL from O'PIN SYSTEMS solves report distribution problems. Users go "paperless" and view reports directly from PCs or terminals. Saves time and fast payback too! *Call (800) OPIN or circle 258*.

OREGON DIGITAL COMPUTER PRODUCTS INC.

Distributers for the RT386SX-2 upgrade for HP Vectra ES and ES/12 personal computers. Dealer inquiries welcome. *Call* (800) 854-5678 or circle 489.

OUEST SOFTWARE

The only complete HP 3000 solution for:

1) High speed network file and database access,

2) IMAGE,KSAM and MPE file shadowing,

3) Low overhead network spooling. Call (714) 720-1434 or circle 268.

R SOUARED

Complete line of quality peripherals, including disk, tape and optical drives, connectivity and I/O devices, mass storage libraries. *Call (800) 777-3478 or circle 179*.

SPEEDWARE CORPORATION

An international software developer of Speedware — a leading 4GL addressing all aspects of application development, PC integration and end-user computing. Other products include Speedledger, TOURS and Bestseller. Call (416) 687-1841 or circle 156.

TELAMON

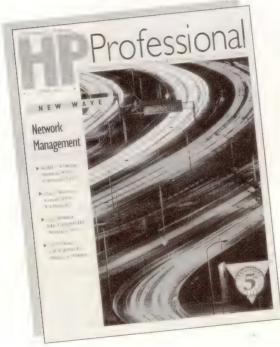
Bisync and asunc communication tools for HP 3000 and HP 9000 users. Call (916) 622-0630 or circle 234.

WALKER RICHER & QUINN INC.

Makers of Reflection Series Software. HP terminal emulation for PCs and Macintoshes. Call (800) 872-2829 or circle 127.



SUBSCRIPTION Professional



If you're a Hewlett-Packard computer user, and buyer of HP-related hardware, software, or peripherals, HP Professional, the monthly magazine for Hewlett-Packard commercial and technical computing, is for you.

> It's Informative. It's Read by over 35,000 Professionals Like You. It's FREE!

Read HP Professional for information and insights on the latest hardware, software, trends and developments.

Start your free subscription today . . .

Send us the coupon below. You'll receive a subscription application in the mail. Fill out and mail the application to qualify for your free subscription.

Professional subscription application request

YES, I'd like a FREE subscription to HP Professional. Send a subscription application to:

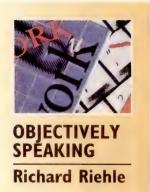
.... Title __ Name __ Company_

Address__

_____ State _____ Zip __ City__

Telephone (_____)_

Mail or FAX to: HP Professional, P.O. Box 616, Horsham, PA 19044-0616 (215) 957-1500, FAX (215) 957-1050.



Recyclable Software?

A more frequently stated reason for object-oriented

programming is the opportunity to reuse software objects. Those opportunities do exist, but only when carefully planned, and only when made a part of the "culture" of the software development organization. Also, optimal software reuse cannot be adequately achieved with most currently popular programming languages.

Leveraging Versus Reuse

When considering reuse, it's important to differentiate between software leveraging and reuse. Software leveraging is the ability to take advantage of existing software to create new software. Leveraging usually requires making small modifications to the existing software. These modifications may be as simple as altering the data type, changing the number of iterations, or tweaking the code to enhance its efficiency. Another characteristic of software leveraging is the serendipity factor. That is, the success of the leveraging process is often the result of happy accidents. For example, one programmer might tell another about some existing piece of code that does something wonderful.

Reuse is sometimes compared to the hardware world of integrated circuits. The so-called "software IC" notion is based on the idea that a reusable component can be used, as is, without modification. If the component requires change, it isn't reuse, it's leveraging.

The benefit of reuse over leveraging is straightforward. As a component is reused over time, it tends to become more mature. Its behavior becomes predictable. Once you make any modification to a



software component, however minor, the probability for errors increases. Therefore, unmodified reusable components reduce the chance of errors. Leveraging introduces the opportunity for errors. Reusable components are pretested. Leveraged code requires additional testing procedures before it can be used.

The ideal place for a reusable component is in algorithms. This is the procedural part of the code. The benefit of this is to eliminate some of the complexity usually associated with software design. Algorithms are the principal source of programming errors. If you can implement an algorithm independent of data type, you reduce the probability of error.

The concept of a reusable algorithm requires a feature called genericity. The best implementation of this feature in an object-oriented language is probably Eiffel. Ada, still an object-based language, has the most effective generic capability of any existing language, but it lacks inheritance and polymorphism. Consequently, Ada provides an excellent capability for generalization of algorithms. As

of this writing, there is no language that gives you everything you need for the perfect reuse program.

Planning Required

Organizations with successful reuse programs plan well. This planning falls into at least five categories:

- n Managerial commitment and support.
- n Personnel responsibility.
- n Library system implementation.
- n Software personnel training.
- n Continued measurement of results.

It seems almost trite to include managerial support on this list. However, this is where the process breaks down first. Once the deadlines and budget are set for a project, every milestone has the potential of being a crisis. The incentives for reuse are preempted by the exigencies of management impatience. If the nature of designing with reusable components is not made clear early, it may appear that no progress is being made in completing the project. Why is this?

Traditional software project management has emphasized top-down design.

Need Information?

3 Quick Ways to Receive FREE Information

When you need information about new products and services, you have a great resource right in your hands. HP Professional provides you with 3 quick, easy ways to request information . . .

Reader Information Card

Circle the numbers on the Reader Information Card for the products or services you're interested in.

Then tear out the card and mail it in.

HP Professional will process and send your request to the advertiser immediately.

-	350	E	-		100 × × ×			_					Fo	r fre	e in	form	ation	on prod	product	ducts for v	fea	ture	d in	this	issu	es Ju e, ci infor	rcle	tř
	N	-						0			1		T	AME TLE.	ANY			_	_		0	EPT.	лм s	_				_
R	FΔ	-				_		SIC					A G	DOR	ESS.					-	_ s	TATE		ZIP	-			=
200	LOUDE	1020	×6220	DENCE OF THE PARTY	4000	1000	1000	10000	S GOODS	025000	80000	ATURNOS I	TE	LEPH	HONE	().	SERVICE STREET	TO SECOND	200220	625200	FAX	()	500.00	Tricker	52/000	473
	100		100		134	táb	156		138	130	140	111	142		146	145	145	142	140		310					100		
	100	180	.tex	163	185	1960	160	196		190	180	170	192	178	123	174.	175	120	122	174	179	FBO:	101	102	183	104		
80	100	1119	190	100	33		THE S	200			SER.	5	100	39.0					in.	270	200		210	43.5	010		100	
5	513	510	219	220	221	222	223	224	225	226	227	228	229	290	231	232	233	234	220	236	237	230	536	540	245	242	243	
	275	500	240	270	220	201	200	253	200	230	200	591	258	2562	260	201	262	263	264	265	266	267	265	200	270	271	272	
3	304	305	306	307	206	300	NO.	333	312	313	704	315	315	312	210	310	200	221	200	222	293	396	200	397	200	220	330	
201	2	10000	10000	1960	1966	1940	1968	884469	1966	19445	PAGE	25000	(2000)	SECON	104201	008220	1000	COMMO	THE REAL PROPERTY.	TEACH.	1990	0620	1000	100000	2000	SARAN.	SEATO OF THE PARTY OF	æ
		362	304	355	350.	357	368	350	374	325	372		374	3/5	278		378		380	082	302	363			210		200	
	50Y	- 250	593	204	300	394	207	300	347	400	601	100	443	101	4.5	406	107	400	100	410	413	412	413	414	415	450	977	
	100		192		44	900	420		523	629	430	2000		453	S C 2	ACH	350	240					4	225		200	200	
В	449	450	451	452	453	454	455	456	457	450	459	460	461	462	463	454	465	466	487	458	469	470	421	472	423	474	475	
,	478	479	480	481	482	483	484	485	486	487	405	459	490	491	492	493	494	495	496	497	496	499	500	501	502	503	504	

FAX Transmission Form

Use the Fast FAX Form in this issue to write in the numbers for the products you're interested in. FAX the page to HP Professional at (215) 957-1050.

	A	April 1991 (Expires Ju	ly 1991)		" Ih
FAX NOW for						.,6
Well, now you can	FAX your int	formation reque	its directly to H	P Professional	for a quick res	ponse.
It's easy! Fol	low these (6 steps:				
. In each box, pri	at the number	rs shown on the	eds for the prod	ucts you want	more informat	ion shor
				/		

Free Information!

FAX Transmission Form

Name Title		
Address		
City	State	ZIP
Country		
Telephone Number ()	
FAX Number ()		
Cianatana		D

Please answer these questions:

- 3. Do you wish to receive/continue to receive HP Professional?

 01 Yes 02 No

 4. Do you recommend, specify or buy companing products for water propagation.
- 5. What kind of HP computers does your company own or plan to buy? 01 ☐ HP 3000 02 ☐ HP 9000
- 1-

Advertiser Information Page

The Advertiser Information Page describes products advertised in the issue. There are also telephone and FAX numbers for each company.

3 ways to get product information — fast.
Use the Reader Information Cards,
FAX Transmission Form and
Advertiser Information Page
in every issue of HP Professional.

ANVERTISES	INFORMATI	ON
U DE LUI I I 3 E L	INTORMATI	VII
you'd like you information about the product	ts from the companies listed below, circle the appropria	te number on the reader information card. This
	publisher does not assume any liability for errors and o	mentanions.
EEGING INDUSTRIES	IEM INC.	PLB. FOSTER ASSOCIATES LTD.
Lemovable mass merage solutions, underlying look	Affectable laretware solutions, from memory bounds and munifice cards to the latest in oviced disk	Utility software supplier, speculating in PC/mins stregrition, EDI Software Supplier and customer service and support. WRQ distributor. Call (800)
th drives, suggests-optical entable drives, and agh-capacity says back-up for HP 3000/9000/1000 supposes. Cell (800) 237-4641, (408) 379-6900	tochaology Call (503) 223-4071, (600) 321-6671	sorvice and appear, WRO distributer, Cell (1909)
impeiers. Cull (800) 237-4641, (408) 379-6900 viinte 186	er circle 123	ANSWERS or divise \$55
	PART FERRING	HEWPORT DIGITAL CORP.
and 12 MB compatible which memory for HP	Providing DataExpress on End User Computing Environment, for connecting HP 3000 based	Accelerate earth for HP 9000 Series 200 plus HP- 310 and HP-320. Top-fold performance imporressess. Cell (714) T/0-1644 or chele 246.
and 12 MB compatible add-us manager for HP 000 Series 350/370 and Appello Domain 4000 acres. all (500) 415-2000, (800) CLEARPT or circle LSI		· improvement. Call (714) 739-3644 or chule 246.
alt (108) 433-2000, (800) CLEARPT er direk 151	PC, in formats acceptable for popular PC packages each as LOTUS dBASE, ttl and Wordperfect	
ogaos coap.	Domes available Call (206) 322-7700 or deds 262	HSD SNC.
ognos provides application development software ir HP MPS V MPE XL and HP-UX platforms.		With job assumptation and MSS productivity products from PSSD, year HP 2000/9000 will run
or HIP MPE V MPE XI, and HIP-UX platforms. Left (800) 4-COGNUS or shale 241	4GL/DRMS for HP MPE XL and HP-UX	moother, faster and better Call (415) 575-5923, (800) 538-3818 or shele \$41
- (may	systems offering application development, reporting	fleed to a nate and pag
OMPUTECH SYSTEMS CORP.	systems offering application development, reporting and decision supports. Supported on all major phriocens. Cell (212) 736–4635 or deels 267	OBBIT SOFTWARE
the complete line of EP 3000, 1000 and 9000 properties, communities and accounts. Call (800)	parameter Care (414) 176-9137 67 (305) 267	Software products offering fast backup, online backup, unaturnded backup, and tape management
papezent, compations and accommon. Can (200) 82 0201 or clode 191	INFOCENTICE CORP	
	An international software developer of Speedware— s leading 4GL addressing all aspects of application	Call (415) 237-4143 or deals 234
UMULUS TECHNOLOGY CORP.		
interioral compatible with HF 700/92 and 700/94. PM higgerier display. Two models, HCT or CET rec year Contractual USA warrants. Free demo.	yunng, Other products undude Speedledger, TOURA and Besteller. Cell (416) 687-1841 or einle 156.	SEDASIS in recruitmed in HP ADD-CNS. In owner
rec year Contamental USA warranty Free demo 907 Elwell Count, Palo Alto, CA 94303. Call (413)	ent transfer. On 141th 99 v. 1141 to state 13.	SEDASES is specialized in HP ADD-ONS. In mage of products goes from momenty boards for HP 9000, HP 5000 to mass-storage memory and 8 mm, 4 mm
60-1200, FAX (415) 960-3522 or detle 242,282	DIFOTEX	HP 2000 to mass-storage memory and 8 mm, 4 mm sorage. Call 33 98 47 70 90 or abule 388.
	Leading manufactures of husbanedominane 109	
ATARAM	mhacement including memory, BASIC compilers, data sequention boards and digital signal processors. Cell (800) 227-0218; in C4 (800) 523-1682	THOMAS EMANT Greats
ligh-perferences memory add-un for HP 9000 sodels 340, 350-360 and 370 workstations and DN	Cut (800) 227-0218; in CA (800) 523-1682 at disfe 181	ID-Module for HP 9000, emulsors HP46084A. Sensi mustivets are user selectable and are entered on the
		HIL-keyboard of the weekstaden. PAX +45-451- 701641 or circle 279
atreas and servers. High quality and rehability at we proces. Gall (800) 822-0071. in NJ (609) 99-0071 or circle 248	MARKET N.	701011 B1 INC. 279
99-0071 ev siede 266	No Ware for the HP 9000 provides NetWare chests with access to the full resources of the HP 9000	TTHLASS CORP BACKPACK
isc		A family of high-speed and unanceded backup software for HP 3000s. Free demo.
tounder, software incremes user and programmer	for the HP 9000 is Novell approved and available directly from Innova. Call (416) 529-8117	Self-wate for ISF 3XXXs. Proc demo Cell (800) 767-9611 or circle 149.
reductivity with sistantineous online relational term to correspond data. Cell (503) 895-0315	or circle 276	
circle 113		TYPILARS CORP. PDQ
NAME OF TAXABLE PARTY.	Photos/poster buffen, data loggen for HP-IB.	Converts source code to machine integrates, demantically decreasing essecution times and
QUINOX SYSTEMS INC. sclagms Data PBXs provide reliable solutions for		Cell (1990 747-963) or clede 243
cere consecuvity between gashwoods; bost apparen, accuseals, PCs and people calc	computers. Converten for HP-IB/Contragas. perphends. Call (\$90) \$42-6825 or shels 176	Con land taxaatt or man 340
unpuners, sempiajals, PCs and pempherals all (800) 328-2729 av slede \$15		TYPHLABS CORP. SESSION
	ISA CO. LTD.	Windows application that allows you to connect PCs
SOFTLAS	Complete range of mass storage devices and other penyhersh for HP 3000, 1000 and 9000 from ISA.	to HP 300th and HP 9000s. Supports Windows/2005, Wandows/300 and Windows 3.0.
moview software solutions for HP computers om Yugudava. PAD emulance, fisnik Quese		, Cell (900) 767-0611 or dede \$45a-
Sangement, Dunbase tools, etc. PICS support. ad + 52-51-532-693 or orde 252	ov simile 245	WALKER SPICHER & QUINN SNC.
av + / 4-11- / / 11-17 / 11 (11-12) 23 I	KESLY COMPUTER SYSTEMS	Makers of Reflection Sones Software
ERSTAL AUTOMATION LTD.	Employees of performance perducts, RAMORSC	14P occurated envolution for PCs and Macignoshes. Call (200) 272-2229 or deals \$65.
	Spectrum memory Chanc mamory, and PC and Execute memory, CPU supervise the models of the	. One proof overcour or deal (40).
ottowere to estad. Cell (313) 348-2001 or clock 119	Laserget memory: CPU apprades also available. Cell (415) 960-1010 av sinde 185	TORRE
EWLETT-PACKARD CO.		2/A/8 MB memory upgade for the HP 9000 200/300 and 340. Call (215) 408-6713
P remanulativeed products. Remanulative of MPE L, MPE V and HP-UX systems and peripherals are	The dealess transactions tool for HP's ALLBASE/	200/300 and 340. Call (215) 408-6713 en dinfe 237
L, MPE V and HP-UX rymens and peripherals are relable from Hewlett-Packard. Genter your load HP	The database transpersion tool for HP's ALLEASE/ SQL on MPE XL slows the manipulation and evaluation of database objects. Cell (404) 233-1587,	
instat from Hewsen-Picture. Comme you man star do refler or dirde 198	evaluation of dambase objects. Call (404) 253-1587, PAX (408) 253-4008 or sleds 178	old deltabole.
	NAV Local WALLAND My BADE 116	2.300
	Married Co.	Manage State of the State of th

The project life cycle has been represented by the waterfall method, a model for software development introduced more than 20 years ago. This model has been comfortable because it gives the illusion of orderly development and appeals to a straight-line mode of thinking.

Object-oriented design, however, is not a straight-line method. It is definitely not top-down. Instead, it is a process that combines top-down and bottom-up design. Typically, the actual application is designed top-down as the reusable components are being selected or designed bottom-up. This method tends to resist the waterfall method because more activities are proceeding in parallel, and some were already completed before the project ever started. Unfortunately, from an outside view of the project, this can appear to your management or client as disorder and confusion. This politically negative view is not abated by the fact that an object-oriented design project



tends to have a longer design period than a waterfall, top-down design project. This means that it seems to be a long time before application programmers are actually put to work coding.

Find The Component

Here's the fascinating part. There's no universally accepted classification scheme for components. Some authors, such as Grady Booch, have attempted a taxonomy of components for data structures. This has benefited designers in Ada and C++ who use the Booch Components. The U.S. Army has been developing a reuse library called RAPID. C++ implementations usually have a large predefined library of components that can be used in inheritance mechanisms.

As we mentioned, Eiffel and Ada both have a generic capability. In interpreted object-oriented languages such as Smalltalk, reuse is relatively easy, because there is little concern for data types. An intermediate object-oriented language such as C++ introduces both opportunities and problems. The opportunities reside in inherent polymorphism of components. The problem with C++ is the current lack of a generic facility, but this will be solved in future implementations of the language standard.

It would be nice if we could identify software components as easily as we do

FULLY AUTOMATED

Backup, Archival & Retrieval in Multi-Vendor Networks for:

HP-UX Apollo SunOS IBM AIX
DEC Ultrix

Sil. Graphics

AT&T Interactive DOS Novell MPE

HIBACK & HIBARS

- ✓ Open Systems Solution
- ✓ All Current Backup Media Supported
- ✓ Locally, or across LAN to remote Device
- Unrivalled Support of rewritable Optical Disc "Jukebox"

 $H \cdot I \quad C \cdot \textcircled{6} \cdot M \cdot P$

HINRICHS GMBH

HI-COMP Hinrichs GmbH Eichenlohweg 24 2000 Hamburg 60 Germany Phone: 040 630 4011 FAX: 040 631 6004 H·I C· · M·P

HI-COMP America 419 Canyon Ave., Suite 215 Ft. Collins, CO 80521-2670 Phone 1-800-323-8863 FAX (303) 224-9702

CIRCLE 120 ON READER CARD

Extend IEEE 488 Up to 4000 ft Remotely control up to fourteen IEEE

Remotely control up to fourteen IEEE
488 devices from your computer with
IOtech bus extenders. Choose our
fastest model at 840 Kbytes/sec, our
most economical at \$695, or
our fiber-optic version
for high electrical
isolation.

tel (216) 439-4091 • fax (216) 439-4093

CIRCLE 129 ON READER CARD

electronic components. For example, any electronics designer can look at the colored bands on a resistor and know its ohm rating. Such visual indicators aren't useful in software. And we are a long way, as an industry, from agreement on any kind of software component taxonomy. If there is any deterrent to implementing a reuse program, it will be the delay in solving the library science problem, not the technical problem of creating components.

It probably seems odd that the main obstacle to software through reusable components is an information retrieval problem, not a programming language or component design problem.

The Reuse Program In Place

If the potential for reusable components is identified early, the project manager can assign programmers to search for and test existing components. In some cases, it will be necessary to design and build your own components, but that should be a last resort.

When we say talk about responsibility, we mean there should be a corporate commitment to reuse, and someone with adequate technical credentials should manage that commitment.

Hewlett-Packard has an internal program for software reuse. The HP program is currently under the direction of Dr. Martin Griss at HP Labs in Palo Alto, CA. Westinghouse has a reuse program and even has a corporate newsletter devoted to the subject. Others in the software industry are less enthusiastic about reuse. Bill Joy, at Sun Microsystems, has been cited for his deprecation of any software that is based on reuse. Such negative attitudes regarding reuse originate in the notions that software should be as efficient as possible and that reusable components are too generalized to be optimal under all conditions.

To many, reuse means include files used to build C and Pascal software systems, or COPY files used in COBOL applications. Although these files do represent some level of reuse, they are at the most primitive level. From our definition

of reuse, it will soon become clear that standard implementation of languages such as Pascal, C, COBOL, and Fortran do not include the qualities required for a truly successful reuse program. Object-oriented languages such as C++, Smalltalk, Eiffel and Objective C include more of the required qualities. Eiffel and

Ada have the one feature required for algorithmic independence: a generic capability. — Richard Riehle is president of AdaWorks in Palo Alto, CA.

Would you like to continue to see articles on this topic? Circle on reader card yes 346 no 345



How do you tell HP and HP Apollo computing pros about your products and services?



Rent HP Professional's mailing list to reach over 35,000 top decision-makers in HP and HP Apollo sites.

You can target the users who are most interested in your products by customizing a list using over 200 free selects, including . . .

- Industry
- Company Size & Budget
- Networks/Protocols
- Purchase Authority for over 60 Product/Service Categories
- Title
- Computers Owned/Planned for Purchase
- Networking Information

Call Jane Hope at (215) 957-4221 to rent a list or request more information.

HP Professional's List Delivers!



101 Witmer Road, P.O. Box 616, Horsham, PA 19044 (215) 957-4221 ■ FAX (215) 957-4264

3096-07/92L



GFKT Hamburg Boosts HP Memory Capacities

GFKT Hamburg, a European manufacturer of HP-compatible memory products, released a series of new memory boards for the HP 9000/720, 730 and 750, as well as for HP 9000/8X7 and HP 3000/9X7 systems.

Equipped with 16 MB DRAM chips, the new boards enable memory capacities of up to 256 MB for HP 9000 Model 720 and 730 workstations, 768 MB for the Model 750, and up to 1,024 MB for HP 9000 Series 8X7 and HP 3000 Series 9X7 systems. The 1 GB of memory on the 8X7 and 9X7 systems is achieved with the addition of a new extender card.

GFKT Hamburg lists delivery times of about four weeks for the new boards.

Contact GFKT Hamburg, Frankenstrasse 29, D-2000 Hamburg 1, Germany; (40) 2373010.

Circle 378 on reader card

M.B. Foster Offers Upgrade To EDI Windows Software

M.B. Foster Associates introduced EDI WINDOWS, an EDI control and translation software product.

EDI WINDOWS can concurrently support multiple versions of X12, EDIFACT, TDCC, UCS and WINS standards to include all industry and trading partner specific subsets. It features pop-up windows, pull-down menus, online help and a flexible, online mapping module that simplifies integration of EDI with applications. It can be defined to perform communications, transfer data, execute EDI translation, send mail, create reports, update applications, extract data from applications and execute user programs. Jobs can run on demand, on an unattended schedule, or as called from within user programs.

For a limited time, EDI WINDOWS is extending a discount offer for companies wishing to upgrade from their present PC, HP or VAX-based EDI software system.

Contact M.B. Foster Associates Ltd., 50 Water St., P.O. Box 580, Chesterville, Ontario, Canada K0C 1H0; (613) 448-2333.

Circle 400 on reader card

Precision Visuals Releases PV-WAVE Version 4.0

Precision Visuals Inc. announced version 4.0 of the PV-WAVE Command Language (CL), adding functionality in connectivity, data access and manipulation, graphical display and ease-of-use.

New features for connectivity include dynamic linking and direct linking, allowing PV-WAVE to integrate with other commercial packages or custom software. CL version 4.0 also features an Encapsulated PostScript Interchange (EPSI) output driver and a new PICT output driver that enables PV-WAVE graphics to be exported in standard formats for display with Macintosh software. New data access and manipulation features are date and time data structures, data connect routines, and table tools. New graphical display techniques employed by CL version 4.0 include a rendering function based on ray-tracing techniques and automatic calendar plots for time series data.

Precision Visuals has extensively rewritten sections of CL's documentation and includes an Applications Guide, a hypertext online help system, and a codebook providing 10 example applications built as developer scenarios to solve common challenges.

PV-WAVE Command Language Version 4.0 costs \$4,500 for a single floating license. Contact Precision Visuals Inc., 6230 Lookout Rd., Boulder, CO 80301; (303) 530-9000.

Circle 399 on reader card

Datalogix Combines ORACLE With GEMMS ERP

Datalogix International Inc. announced GEMMS support for the ORACLE relational database management system.

ORACLE supports enterprise-wide integration through distributed, portable and open architecture. ORACLE enables

organizations to integrate multiple computers, operating systems and network environments into a unified computing and data-sharing resource. The combination of GEMMS (Global Enterprise Manufacturing Management System) and ORACLE provides a CIM solution that offers RDBMS support, a 4GL, support for multiple hardware platforms and graphical user interfaces, and a client-server architecture.

Contact Datalogix International Inc., 100 Summit Lake Dr., Valhalla, NY 10595; (914) 747–2900.

Circle 398 on reader card

Worldtalk 400 Backbone Links E-Mail Applications

Worldtalk Corp. announced Worldtalk 400 for the HP 9000, a messaging integration server for PC-LAN e-mail.

Worldtalk 400 for the HP 9000 provides production quality conversions between industry leading e-mail applications such as cc:Mail, Novell MHS, Lotus Notes, QuickMail and Microsoft Mail. Worldtalk links these systems to each other and to other systems that have X.400 or UNIX smtp connectivity. The Worldtalk 400 system consists of gateways and servers that can be easily configured to each customer's specific requirements. The gateways typically reside on their native platforms (UNIX, DOS, OS/2, Macintosh) with configuration and management centralized at the Worldtalk server.

Pricing for Worldtalk 400 for the HP 9000 begins at \$23,950 with gateways available separately at \$1,500 each.

Contact Worldtalk Corp., 475 Alberto Way, Los Gatos, CA 95032; (408) 374–5600.

Circle 397 on reader card

UniPress Makes Sun XView Available On HP 9000/700

UniPress Software Inc. announced that Ericsson's Sun XView-based CASE tools software is being made available on HP Apollo 9000 Series 700 workstations.

UniPress' XView Toolkit enables XView and SunView applications to be ported to HP, DEC and Silicon Graphics computers by recompiling the application source code. It provides a migration path from SunView to the X Window System, operating with many window managers, including Motif, OPEN LOOK and twm. The UniPress XView Toolkit is available for the HP 9000 Series 800, the HP Apollo 9000 Series 700, the HP Apollo 9000 Series 400, the HP 9000 Series 300 systems and servers, the DECstation family and the IBM RISC System/6000. A single CPU development license is \$2,495. Contact UniPress Software, 2025 Lincoln Hwy., Edison, NJ 08817; (908) 287-2100.

Circle 396 on reader card

IDE Distributes RTM From Marconi

Interactive Development Environments Inc. announced that it will distribute Requirements & Traceability Management (RTM) developed by Marconi Systems Technology (MST).

RTM is a requirements traceability tool designed to ensure that developers' systems meet the expectations of users. RTM provides a requirements engineering toolset that allows the developer and the user to establish a set of formal requirements that can be agreed before work begins. As work progresses, the RTM ensures that each development activity is related to the original requirements and that all requirements are addressed throughout the development process.

RTM is currently available on Sun SPARC systems, DEC VAX systems running VMS, HP 9000 Series 700 and DECstation 5000. RTM runs under the X Window System with a Motif user interface and is fully POSIX compliant. RTM has interfaces to FrameMaker and Interleaf technical publishing systems. A typical four user system costs \$42,500.

Contact Interactive Development Environments Inc., 595 Market St., 10th Floor, San Francisco, CA 94105; (415) 543-0900.

Circle 395 on reader card

CUFFS300 Provides Full Audit Capability

Serasoft announced the CUFFS3000 security management tool for the HP 3000.

CUFFS3000 permits the security manager to control many aspects of the password, including aging, password length and maximum attempts. Restricted access of a particular user, LDEV or session name to a date, time or day of the week is possible. LDEV or session name password maintenance is also available. CUFFS3000 includes a full audit capability with audit and warning reporting. CUFFS3000 is licensed at a price of \$1,295 for the first CPU and \$259 for each additional CPU.

Contact Serasoft, 295 East Industrial Park Dr., Ste. B, P.O. Box 5763, Manchester, NH 03108; (603) 644-3200.

Circle 394 on reader card

MetaCard 1.0 Creates Hypermedia And Applications

MetaCard Corp. announced MetaCard 1.0 hypermedia and rapid application development environment.

MetaCard offers the ability to create and modify applications and hypermedia documents using interactive tools and a scripting language. It is a full-featured UIMS that can be used to create a range of products from GUI front ends to UNIX commands to commercial grade applications. The MetaCard environment includes text editing tools that support multiple fonts, sizes and colors, automatic scrolling, search, sort and hypertext links. A complete set of full color image editing/painting tools are also built in. MetaCard supports the full range of Motif user interface techniques and controls, including toggle and push buttons, pull-down

First there was translation software. Then there was mapping software. Now there is a solution that includes even more ...

EDI WINDOWSTM

introduces the functionality to effectively manage and control the complete EDI process between business application software and value-added networks.

EDI WINDOWSTM

uses windows technology on terminals for ease of navigation. Pull down menus and pop-up help included. DI WINDOWS

To find out more about this exciting new product for Hewlett Packard mini-computers (HP3000 & HP9000) and DEC mini-computers (VMS).

CALL



M.B. Foster Associates Limited

1-800-ANSWERS (1-800-267-9377) (613) 448-2333 or

FAX us at (613) 448-2588

EDI WINDOWSTM is a trademark of trinary systems inc.

and pop-up menus, scroll bars, dialog boxes and floating palettes.

MetaCard supports HP 9000/300, SPARC, Sun 3, DECstation and SCO Open Desktop (ODT). Single user copies of MetaCard will sell for \$495. Site licenses are available from \$2,500 for 10 users up to \$15,000 for 250 users.

Contact MetaCard Corp., 4710 Shoup Pl., Boulder, CO 80303; (303) 447-3936.

Circle 393 on reader card

SMARTsystem Supports Apollo 9000 Series 700

Procase Corp. announced the availability of the SMARTsystem software development and maintenance environment on HP Apollo 9000 Series 700 workstations.

Comprised of five modules, SMART-system is an integrated set of multiuser programming tools built on an object-oriented database that stores the program source code, any modifications made and all derived data, providing a model from which programmers can analyze both the overall

structure and detailed components of a software program. SMARTsystem for the Series 700 lets software developers reengineer large bodies of existing C source code to accomplish such projects as porting, maintenance, enhancement and software evolution for both host and embedded development projects. It also offers incremental tools for new development. SMARTsystem utilizes HP's SoftBench framework, which enables CASE tools to work together in a fully integrated software development environment.

Each SMARTsystem module is priced at \$2,000. The entire system sells for \$10,000. A network license manager allows customers to purchase only the quantity of each module needed for simultaneous use. In addition to the HP platform, SMARTsystem supports SPARCstations, IBM RS/6000 and DECstations.

Contact Procase Corp., 3130 De La Cruz Blvd., Ste. 100, Santa Clara, CA 95054; (408) 727-0714.

Circle 392 on reader card

EtherFlex & BridgePort Allow Multiplatform Print Sharing

Extended Systems announced new additions to the EtherFlex and BridgePort product families.

EtherFlex enables Novell NetWare 286/ 386, Novell NetWare Lite and Apple EtherTalk network users to directly connect to an HP LaserJet II, IID, III, IIID or IIISi printer. BridgePort allows PCs, Macintoshes and Sun workstations to share HP LaserJet IID, III, IIID and IIISi printers. BridgePort EX allows networked and non-networked users to share the same HP Laserlet IIISi. Automatic Language Switching (ALS) on the EtherFlex and BridgePort are completely transparent and determine whether an incoming print job is PostScript or PCL and configures the printer to the appropriate language. Font management technology assures Novell users that the appropriate soft fonts are reloaded to the printer automatically when the printer's language switches. Users have the flexibility to select the most popular Ethernet connections on a single network





CIRCLE 171 ON READER CARD

card. EtherFlex and BridgePort EX support twisted-wire (10Base-T) and thin-coax (thin-wire, BNC) cabling connections in a single product.

Contact Extended Systems, 6123 N. Meeker Ave., Boise, ID 83704; (208) 322-7575.

Circle 391 on reader card

Micronics X Workstations Deliver Virtual Memory

Micronics Computers Inc. announced the PC4X X workstation system, offering X terminal users the protection of virtual memory.

Virtual memory in the X terminal environment provides the X Window Display Server with the capability to use the storage of a remote computer when it outgrows local memory in the terminal. The PC4X hybrid desktop platform can boot-up as either a diskless X terminal or a 486-based computer system (when configured with a disk drive). By custom tailoring system configurations with hard disk, memory and display options, the PC4X can be optimized for use as a network-ready DOS/Windows PC, a personal UNIX workstation or a DOS/ UNIX application/file server. The PC4X has an average selling price ranging from \$2,495 to \$6,195, depending on volume and configuration.

Contact Micronics Computers Inc., 232 E. Warren Ave., Fremont, CA 94539; (415) 651-2300.

Circle 390 on reader card

HP BASIC Plus Presents Graphical Interface & Help

Workstation Source announced HP BASIC Plus, adding extensions to the HP BASIC language specifications including a GUI and online help.

HP BASIC Plus enables the user to easily create user interface graphics including any one of 29 graphics objects, dialog box objects, data display objects, input objects, and menu objects. Loaded as HP BASIC binary, HP BASIC Plus provides high throughput graphics and responsive menu and dialog box selections. It can be stored as part of the operating system, so it does not need to be loaded each time the system is started. HP BASIC Plus provides online help for all HP BASIC keywords, bringing the HP BASIC Condensed Reference Guide's information for HP BASIC keywords to the screen. HP BASIC Plus requires an HP 9000 Series 300

controller (with a bitmapped display) and an HP Measurement Copro-cessor on a PC or any controller that supports HP BASIC/UX. It also requires HP BASIC 6.2 or later. HP BASIC Plus uses 900 KB of RAM and 3MB of hard disk space.

Contact Workstation Source, 16 Auckland Close, Maidenhead, Berkshire England SL6 8QB; (0628) 75252

Circle 389 on reader card

HP Unveils New EtherTwist Networking Products

HP introduced a Ethernet-to-Token-Ring router and a thin coaxial hub to its Ethertwist family of networking products.

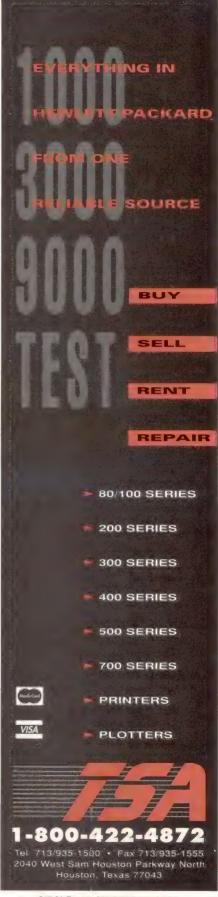
The HP EtherTwist 27286A Router TR allows users to integrate to Ethernet and Token Ring networks or migrate from Token Ring networks to lower cost 10Base-T LANs. Its four ports connect one Ethernet/ IEEE 802.3 link, one Token Ring 4/16 Mbps link and two WAN links, each at speeds of up to 2.048 Mbps. It can transmit approximately 5,500 (64-byte) packets/sec. between Ethernet and Token Ring networks. The router is fully compliant with SNMP and provides concurrent operation of five standard-networking protocols: TCP/IP, DECnet IV, Xerox XNS, Novell IPX and AppleTalk II.

The HP Ethertwist 28692A ThinLAN Hub Plus is a multiport, thin coaxial repeater for use in Ethernet and IEEE 802.3 LANs. The new hub features nine thin-coaxial (BNC) ports and one AUI port and provides a scalable solution for 10-Mbps LANs using thin coaxial cable. The AUI port allows connection to thin or thick coaxial, fiberoptic or twisted-pair cables to support large or small networks in various configurations. It also provides support for SNMP/IP and IPX-based network management. The HP EtherTwist 27286A Router TR is \$8,500. The HP EtherTwist 28692A ThinLAN Hub Plus is \$2,900.

Dataram Presents 64 MB Memory Board

Dataram Corp. introduced a 64 MB expansion board-set for the HP 9000 Series 700 workstation.

The DR9700D/64 uses 16 MB DRAM technology, consists of two 32 MB boards and can be installed in any combination to



CIRCLE 137 ON READER CARD

increase memory capacity to 256 MB in Models 720 and 730, and to 384 MB in Model 750. The DR9700D/64 is completely hardware- and software-compatible with the HP workstations. The new board set sells for \$14,000, with quantity discounts available. Contact Dataram Corp., P.O. Box 7528, Princeton, NJ 08543; (609) 799-0071.

Circle 388 on reader card

Mesa/CTI Links Teamwork And Software Through Pictures

Mesa Systems Guild Inc. announced the Mesa/CTI CASE Tool Interface, linking Teamwork and Software through Pictures (StP).

Mesa/CTI is available for Sun and HP/UX workstations. Mesa/CTI enables graphics and text objects to be created in StP or Teamwork and then transferred to the other tool; complete or partial projects can be transferred in both directions. In addition, Mesa/CTI allows import and export of data directly from a menu in Teamwork or from StP's Main Menu. A command line interface

is also available for additional user-process integration. Mesa/CTI uses the CASE Data Interchange Format (CDIF) as an intermediate format, making Teamwork and StP data available to any software development tool that can read CDIF. Also, by using CDIF, it is not necessary to have Teamwork and StP on the same network. Mesa/CTI also provides context-sensitive help, available in either a Teamwork window, StP window or a native shell window. Mesa/CTI is \$10,000 for a single copy, with discounts for multiple copies.

Contact Mesa Systems Guild Inc., 168 Ninth St., Providence, RI 02906; (401) 421-9390.

Circle 387 on reader card

Hi-Comp Releases New Version Of HIBACK/XL

Hi-Comp America Inc. announced HI-BACK/XLT, a new version of HIBACK/XL.

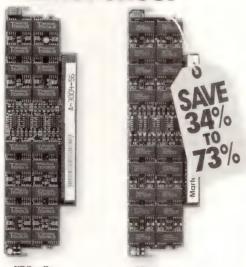
Enhancements featured in HIBACK/XLT include HINET, which allows high-speed

data transfer across any LAN to a remote node from the node HIBACK is running on. HINET will also provide access to a MO-Autochanger (Rewritable Optical Disc Autochanger or jukebox) connected to a UNIX system from HP (HP 9000/ 300/400/600/700/800). This will let you include MPE XL 2.2-upward based systems to your fully automated backup strategy with HIBARS and HIBACK. In addition, all I/O going to or coming from storage media has been separated from HIBACK/XL into a new I/O process called HIBIOP, allowing HIBACK/XL to concentrate on data collection. You will also be able to use any other backup device connected to any other MPE system in the network. Finally, native mode spoolfiles are fully supported and will be implicitly linked into the spooler when restored.

Contact Hi-Comp America Inc., 419 Canyon Ave., Ste. 215, Ft. Collins, CO 80521; (303) 224–9700.

Circle 384 on reader card

The only significant difference.

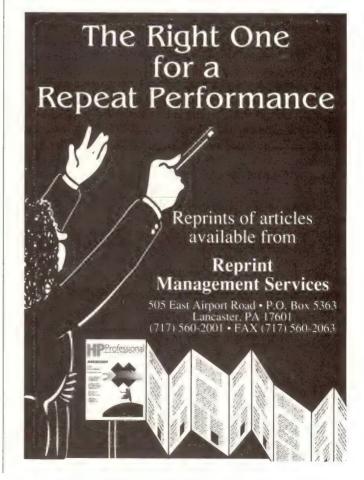


Megamemories™ are 100% HP/Apollo compatible. They're made from high-quality components, backed by a lifetime warranty, and even come with a 90-day money-back guarantee. If you're ready to

Megamemories

save thousands on memory, call or write: Martech, 1151 W. Valley Blvd., Alhambra, CA 91803-2493 Telephone: (800) 582-3555 or (818) 281-3555 FAX: (818) 284-3092

MARTECH
The affordable alternative



Datasys

COMPUTER CORPORATION

BUY • SELL • LEASE • TRADE

Hewlett-Packard

- SYSTEMS
- UPGRADES
- MEMORY
- PERIPHERALS

Call Today 800-DATASYS (328-2797)

Dallas (214) 931-9195

Oklahoma City (405) 946-0440

(214) 931-9195 (405) 946-0440 FAX (214) 931-9619 FAX (405) 947-3046

CIRCLE 484 ON READER CARD

9000, 3000, 1000 SYSTEMS PERIPHERALS COMPATIBLES

Buy • Sell • Trade
Maintenance



(US) 800 882-0201 (206) 820-6500 FAX (206) 820-6565

CIRCLE 207 ON READER CARD

NORCO COMPUTER SYSTEMS, INC.

Hewlett-Packard Quality at a NorCo Price

1000 • 3000 • 9000 • 250

BUY — SELL TRADE — LEASE

Processors, Peripherals and Systems

21337 Drake Road Cleveland, OH 44136-6620 FAX: 216-572-0636

216-572-4040

1-800-892-1920 (Outside Ohio)

CIRCLE 221 ON READER CARD

The HyPoint Advantage . . . INVENTORY

"Specializing in Full Line of HP 3000 Products"

Buy ■ Sell ■ Trade ■ Lease

HyPoint Technology 600 Ken Mar Drive Cleveland, OH 44147

1-800-231-5500 216-526-0323

CIRCLE 217 ON READER CARD

Genuine HP A1623A

32MB 825/835/925/935/949 Memory Boards \$8900 EACH

Purchasers, Resellers and Component Level Repairers of Hewlett Packard Micro and Mini Computers and Peripherals.

Spectrum • 9000 • 3000 • 1000 • MICRO

1908 14th Street N.W. Washington, D.C. 20009 Phone: (202) 338-2429 Fax: (202) 338-2462

> RESOURCES, INC.

CIRCLE 213 ON READER CARD

ELECTRONIC SERVICES, INC.

FAX 509-662-8271

COMMERCIAL DIVISION

BUY · SELL · TRADE HP 1000 · 3000 · 9000509-662-9039

MILITARY DIVISION

Specializing in US Government Military and related Customers. We maintain a large inventory of Systems Peripherals and Parts to support the HP 9000/500 Series Computers

509-662-6229

Since 1973

CIRCLE 212 ON READER CARD

HEWLETT-PACKARD

1000 • 3000 • 9000

BUY * SELL * RENT * LEASE MAINTENANCE

PROCESSORS • PERIPHERALS • SYSTEMS

EURODATA INC.

(613) 745-0921

Fax: (613) 745-1172 2574 Sheffield Road, Ottawa, Canada K1B 3V7

CIRCLE 283 ON READER CARD

IEEE-488

Hardware and Software Solutions

COMPUTER PLATFORMS

PC/XT/AT, EISA, PS/2, 386, Macintosh, Sun-3/4 and SPARCstation, DEC/ VAXstation, IBM RISC System/6000, HP/Apollo

BUSES

VMEbus, MULTIBUS, SBX, STD, SCSI

DRIVER SOFTWARE

DOS, Windows 3.0, OS/2, XENIX, UNIX, 386/ix, Domain/OS, SunOS, Macintosh OS, VMS, ULTRIX, AIX

SUPPORT

Analyzer, Extenders, Expander, Converters, Controllers, Buffer, Switch Box, Cables

(512) 794-0100 (800) IEEE-488



HP-1000

BUY • SELL • TRADE • RENT

Hewlett-Packard Computer Equipment

Complete product line including Systems, Memory, Discs, and Tapes.

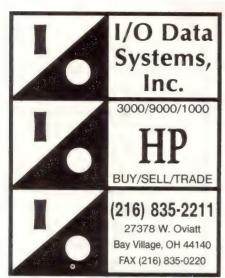


HERSTAL

AUTOMATION LTD. 3171 West Twelve Mile Road Berkley, Michigan, USA 48072 Telex 650-321-1560

FAX 313-548-2010 Phone 313-548-2001

CIRCLE 216 ON READER CARD



CIRCLE 272 ON READER CARD



- New & Refurbished
- Extensive Inventory
- Many Rare Items
- New Cumulus CRTs
- Repair & Exchange

201-672-6000



CIRCLE 209 ON READER CARD

DISCOUNTED NEW & DEMO HP 9000 WORKSTATIONS!

SERIES 300, 400, 600, 700 & 800 UPGRADES PERIPHERALS PLOTTERS PRINTERS

Used Series 80, 200 & 300

WE SPECIALIZE IN HP 9000 PRODUCTS!!

Hewlett Packard Authorized Reseller

NX: 713-484-388

CIRCLE 251 ON READER CARD



WE FIX H-P

- Expert Depot Repair •
- 5-day Turnaround •
- Buy and Sell H-P 1000/3000/9000
- LaserJet Repair •

800-729-0729

We accept VISA, AMEX and MasterCard 408 • 270 • 1100 - San José, California 408 • 270 • 1183 FAX

CIRCLE 211 ON READER CARD

HEWLETT-PACKARD 9000 IT'S OUR SPECIALTY.

PRINTERS ·

PLOTTERS. DraftPros

LaserJets DeskJets

DraftMasters

Rugged Writers

Electrostatics

WORKSTATIONS

Series 80, 200, 300, 400 We offer large discounts, outstanding service and immediate

delivery. Call us before you buy a printer or plotter!



4117 2nd Avenue South Birmingham, AL 35222

(205) 591-4747 or (800)638-4833 Fax: (205)591-1108

CIRCLE 233 ON READER CARD

SHERLOCK Systems & Solutions

Sensible Solutions To The Mysteries Of Your Hardware Requirements

Solutions . . . Not Just Answers

We inventory a large line of CPU's and peripherals. MPE • MPE-XL • UNIX Buy ● Sell ● Trade ● Lease



CALL 1-800-827-6804 FAX 6-848-4515

CIRCLE 491 ON READER CARD



• 4mm, 60 meter Data Cartridge (computer grade)

• 8mm, 112 meter Data Cartridge (computer grade)

• ISO Standard M/O Disk Cartridge 512 B/Sector (SCSI formatted)

7676 Executive Drive Eden Prairie, MN 55344 (CONSAN 612-949-0053 FAX: 612-949-0453 800-229-DISK

\$16.25

\$125.00

CIRCLE 235 ON READER CARD



CIRCLE 205 ON READER CARD

Translate HP

Hewlett-Packard BASIC

Rocky Mountain

BUY • SELL • TRADE

COMPLETE HP SYSTEMS AVAILABLE **ALL PERIPHERALS**

All items in stock - immediate delivery All warranted to qualify for manufacturer's maintenance.

ConAm Corporation

Canada/US 800-926-6264 California 310-419-2200 FAX 310-419-2275

RENT • LEASE

CIRCLE 210 ON READER CARD

HARBORSIDE

Buy/Sell/Lease All Hewlett Packard 1000/3000/9000 Printers/Plotters Memory Etc.

Please call for Pricing

813-799-2009 Fax 813-791-6699



HARBORSIDE MARKETING INC.

1070 C Harbor Lake Dr. Safety Harbor, FL 34695

CIRCLE 215 ON READER CARD

XRT/graph™ Widget



- · No royalties or run-time fees
- Includes the Builder development tool

KL Group Inc. info@klg.com 1-800-663-4723 or (416) 594-1026

CIRCLE 253 ON READER CARD

HP 3000

Buy - Sell - Trade **Hewlett Packard Equipment** CALL

> 713-690-1100 (Fax) 713-690-1130

urety ⁄stems

8600 Jameel Road, Suite 120 Houston, TX 77040

CIRCLE 226 ON READER CARD

INFORMATION

Rates: 1 time: \$500

3 times: \$450 6 times: \$400

12 times: \$350

COLOR NOW AVAILABLE-\$100 **Size:** $\frac{1}{9}$ page $-2^{3}/_{16}$ x $2^{3}/_{4}$

Typesetting and composition ... available.

Camera ready mechanical required.

For more information call:

Jane Hope (215)957-4221





CIRCLE 223 ON READER CARD

CAREERS

HP CAREERS NATIONWIDE

Put your valuable <u>career</u> or job opening in the hands of the experienced HP recruiter who is heavily involved in YOUR industry!!!

- Professional Recruiter since 1975
 <u>Certified</u> Personnel Consultant (CPC)
- Author of "Peopleware" articles
- Speaker at INTEREX, ICMS and HP RUGS RUG Council Member and ACSC Rep
 Nationwide database of over 10,000 HP contacts
- Networked nationally for all geographic locations

Call Amos NAssociates



Diane Amos, C.P.C.

633-B Chapel Hill Road Burlington, N.C. 27215 (919)-222-0231 Fax: (919)-222-1214

CIRCLE 204 ON READER CARD





WENDY W. LINDSAY Division Manager Hewlett-Packard Services

A FULL SERVICE ORGANIZATION DESIGNED FOR STAFFING PARTNERSHIPS 800-677-0491



Personnel racement, inc.

CIRCLE 224 ON READER CARD



Pre-owned Equipment



WORKSTATIONS **CPUs DISC & TAPE DRIVES** TERMINALS & PRINTERS 3000/9000 MEMORY



(Calif) 805-489-1564 (Outside Calif) 1-800-338-5019 (Fax) 805-481-3799

CIRCLE 219 ON READER CARD

FAX Transmission Form

for fast Service or Requests

Free Information!

JULY 1992 (Expires October 1992)

FAX NOW for Product Information. Do you need product information fast? Well, now you can FAX your information requests directly to HP Professional for quick response.

2. Attach your mailing label below or print your in Name	name, address, telephone number and FAX number
Title	
Company	
City	State ZIP
Country	
Telephone ()	
Signature	Date
ase answer these questions:	
3. Do you wish to receive/continue to receive HP Professional?	▲ 5. In my job I specify, approve, purchase influence the purchase of the following
01 □ Yes 02 □ No	(Check all that apply.):
4. Please indicate which of the following you own or plan to purchase at this location (Check all that apply.):	39 ☐ Hardware 79 ☐ Software 97 ☐ Other services and products 99 ☐ None of the above
	39 I Notic of the above
23	

In the US: (215) 957-4264 Outside the US: 010 1 (215) 957-4264

Thank you. Your request will be processed immediately.

ADVERTISERS INDEX

Reade	r Service Number Page
104	Adager33
163	Aldon Computer Group62
105	
171	Black River Computers72
108	Bradmark Technologies, Inc5
294	Camintonn Corporation37
151	Clearpoint Research Corp41
261	Cognos, Inc 44-45
111	Collier-Jackson53
101	Computech Systems Corp 54
112	Contemporary Cybernetics
	Group19
242	Cumulus Technology Corp36
240	Dataram Corporation15
459	Disk Emulation
	Systems, Inc
110	DSP Development Corp30
115	_1
119	110100011111110111, 12001111111107
	Hewlett-Packard/Network
	Systems Group6-7
118	Hewlett-Packard/Worldwide
	Customer Svc27
470	Hewlett-Packard GmbH43
471	Hewlett-Packard GmbH61
120	1
486	Hillary Software, Inc72
122	IEM, Inc2
247	Information Builders, Inc51
135	Infotek Systems, Inc
181	Infotek Systems,

Reade	r Service Number P	age
188	InterWorks2	28
129	IOtech6	8
245	ISA CO. LTD./Texas	
	ISA, Inc.	35
185	Kelly Computer Systems3	39
281	Kingston Technology	
	Corporation1	3
170	Lawson Associates Inc	1
155	M.B. Foster Associates	
	Limited 7	1
220	Martech	4
493	MESA Technology2	21
154	Mitchell Humphrey & Co2	23
246	Newport Digital Corporation	9
488	Newport Digital Corporation 1	1
258	O'Pin SystemsI.B.COVE	R
489	Oregon Digital Computer	
	Products, Inc5	0
268	Quest Software5	7
179	R Squared4	7
275	Software Systems	
	Technology, Inc.	4
156	Speedware Corporation5	5
234	Telamon	4
137	TSA7	3
145	Walker Richer & Quinn, Inc 3	1
127	Walker Richer & Quinn,	
	IncB.COVE	R
180	Wesson, Taylor,	
	Wells & Assoc5	2

COMING IN SEPTEMBER...

Editorial Focus -- User Invironments

Inc.....I.F.COVER

Scheduled Features*:

■ Motif-Based Interfaces by Michael Major — As the OSF's Motif gains favor as the standard of choice, which companies are developing interfaces and what's involved?

■ Multiplatform GUIs by John Vacca — A look at some of the hot multiplatform GUIs in the HP market.

■ The Incredible Machine by Tom Ulrich — Explores how NASA uses HP equipment to test the spee shuttle engine controllers, and how a Canadian firm uses HP systems to develop the shuttle's famous robotic arm.

Bonus Distribution:

NETWORLD 10/13 - 10/15, Dallas, Texas MARUG 10/15 - 10/16, Myrtle Beach, South Carolina

SPACE CLOSING: 8/7

MATERIALS DUE: 8/10

*Articles subject to change



101 Witmer Road • Horsham, PA 19044 • (215) 957-1500 FAX (215) 957-4264

ADVERTISING SALES OFFICES

Leslie Ringe, Associate Publisher (617) 861-1994

CANADA (215) 957-1500

Helen B. Marbach, Regional Sales Manager 101 Witmer Road Horsham, PA 19044 FAX (215) 957-4264

NEW ENGLAND (617) 861-1994

Alonna Doucette, Regional Sales Manager Marissa Scibelli, Account Executive 238 Bedford St., Ste. 3 Lexington, MA 02173 FAX (617) 861-7707

MID-ATLANTIC (215) 957-1500

Mark Durrick, Eastern Regional Manager Mike Friedenberg, Account Executive 101 Witmer Road Horsham, PA 19044 FAX (215) 957-4264

MIDWEST & SOUTH (215) 957-1500

Peter Senft, Regional Sales Manager Mike Friedenberg, Account Executive 101 Witmer Road Horsham, PA 19044 FAX (215) 957-4264

NORTHERN CALIFORNIA & NORTHWEST (415) 873-3368

Judy Courtney, Regional Sales Manager 903 Sneath Ln., Ste. 220 San Bruno, CA 94066 FAX (415) 873-6608

SOUTHERN CALIFORNIA & SOUTHWEST (818) 577-5970

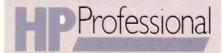
Karin Altonaga, Regional Sales Manager Mary Marbach, Regional Sales Manager 1010 E. Union St., Ste. 101 Pasadena, CA 91106 FAX (818) 577-0073

INTERNATIONAL (617) 861-1994

Leslie Ringe, Regional Sales Manager Marissa Scibelli, Account Executive 238 Bedford St., Ste. 3 Lexington, MA 02173 FAX (617) 861-7707

(215) 957-1500

Cheryl Bortman, Marketing Services Manager Lisa Schmutz, Marketing Services Assistant Mary Browarek, Card Deck Manager Cathy Dodies, List Rental Manager Jane L. Hope, List Rental Sales





Gordon McLachlan

Not-So-Great Expectations

There's been a lot of handwringing over computer sys-

tems productivity lately. A pair of macroeconomic studies out of Harvard and MIT seem to show that there is no direct correlation between levels of IS spending and manufacturing productivity. While spending on computer systems has soared, productivity increases amble along at a meager couple of points a year.

These kind of numbers make beancounters jumpy because it's their job to guard the corporate jewels wisely. In these recessionary times, we have to be careful what we spend, and if the productivity increases aren't forthcoming, the funding won't be, either.

MIS managers don't like the implication that they're not delivering what they promised. All this nifty new technology is supposed to be put to good use. If most projects are cost-justified based on supposed productivity gains, the lack of quantifiable results makes it look like somebody's not doing their job.

Hard-line Luddites can use productivity numbers to point out — again — that they don't think computers are all they're cracked up to be. The old refrain usually sounds something like "I don't know much about computers, but I don't see the kind of results I expected for the investment." Well, I don't know much about beancounting, but I think that we got what we deserved, and I don't blame the computers.

In the first place, many new computer systems have nothing to do with productivity. Governmental regulations, for instance, impose a huge record-keeping and reporting burden on businesses. I won't try to address their merits, but I can't think of too many governmental reporting rules that have a positive impact on productivity or the bottom line.

In a similar vein, many companies have imposed their own onerous reporting strictures. Executive management seems to revel in daily or weekly production and sales reports, and loves to have full-color, 3-D charts of every trend and factoid that it imagines will help it to make timely and accurate decisions. I'm as big a fan of timeliness and accuracy as the next guy, but sometimes the bang just isn't worth the buck we spend for it. Turning all the bookkeepers into financial analysts doesn't equate with increased productivity.

Even systems that are supposed to be productivity-enhancing often miss the mark. The use of word processors, spreadsheets and presentation graphics packages are a case in point: It is invariably true that it is more productive to use these systems than not, but only if all the productivity gains aren't offset by busy work and non-value-added activity.

Word processing tends to lead to too many memos, spreadsheets to over-analysis of marginally useful data, and graphics packages to presentation over-kill. That's why I have really mixed feelings about the usefulness of multimedia tools in business. Does the world really need full-color, animated, musically-scored budget presentations? Maybe if you're pitching a Broadway musical, but otherwise I think it's simply comical.

Even the automation of manual tasks — which has the clearest correlation to productivity boosts — has a dark side. One of the interesting effects of computer systems is that they tend to exacerbate the problems of bad manual systems. The problem is that while bad manual systems can often be compen-

sated for by the development of informal processes and policies that paper over their deficiencies and inefficiencies, computer systems, by nature, must be patched with more software. Attempts to informally cope with bad systems usually cause more work for the hapless user.

The whole concept of process re-engineering and system "re-implementation" reflects this issue. We know that there are process improvements to be made, and it's a real shame that we missed them the first time out. Computerizing the existing processes didn't buy us as much as we had hoped for. I prefer to talk about re-engineering, rather than re-implementation, because it helps focus attention on the underlying processes, rather than the systems aspect.

Unfortunately, this is a nice, simple idea which is rather more difficult to implement. To re-engineer systems effectively, you have to start thinking like a process expert, and you must convince management that they should trust you to do it. As long as management regards its systems personnel as techies, they won't trust them with process issues.

So where does this leave us on the productivity question? I think the economists are right when they posit that there is little connection between how much you spend for computer systems and the productivity increases you can expect. We just need to go a step further. There is definitely a correlation between how much you *think* about your computerized processes and the gains you'll get. Computers don't kill productivity increases; people do.



9 OUT OF 10 BEAN COUNTERS PREFER REVEAL.

If you're an Accountant, Analyst, CEO or among those cost conscious folks often referred to as "bean counters," we've got great news.

It's about new REVEAL 3.1, the innovative software that boosts productivity while dramatically cutting paper costs.
With REVEAL, time

sensitive information can be instantly accessed and viewed, then downloaded to a PC or printed.

New REVEAL 3.1 has more ways to get the right information to the right people—right now! Which makes busy Presidents, Managers and MIS

Directors very happy, too.

For complete details on how you can downsize paperwork instead of staff and still get an amazingly fast payback, phone O'PIN SYSTEMS at 1-800-888-1804.



International Plaza, Suite 635 7900 International Drive, Bloomington, MN 55425, U.S.A. PHONE: 1-800-888-1804 FAX: 612-854-3072

Facer Information Design, Australia, 61-2-484-3979 • Samco Automation, Holland 31-4242-15655 • AK-IndustrieInformatik, Germany, 49-9-31-274661 • Multicom Software, Finland, 358-53-257400 • Proactive Systems, France, 33-1-49-01-05-00 • CPL Systems, Ltd., United Kingdom, 44-742-620242 • Softkol Software Services, Israel, 972-3-348938



Your passport to multivendor connectivity.

The borders are opening. The single-vendor world is no more. Move freely through new territory with Reflection® and Reflection Network Series™ software.

For terminal emulation choose Reflection, the finest text and graphics emulators in the HP 3000 environment. Select from HP terminal emulators for DOS. Macintosh, and MS-Windows. With fast, accurate file transfer, complete keyboard mapping, and a powerful command language, it pays to go with the market leader.

Cross network barriers with a number of solutions. Reflection offers options from simple datacomm choices to extensive support for proprietary and non-proprietary transport connections and for LANs.

Move to complete connectivity with the Reflection Network Series. Link PCs with all your hosts and servers over any network—no DTCs or gateways are required. Run multiple protocols from a single PC, and switch among them without rebooting. Access HP, UNIX, Digital VAX, and IBM hosts concurrently, along with Novell and other LANs.

Reflection and the Reflection Network Series—more choices for a changing world.

NEW-Version 3.7 Reflection 1 for Windows

- DDE Support
- Connection Manager
- 132-Column Support Enhanced Print
- Color Configuration
- Management
- Keyboard Mapping

AdvanceLink/Business Session users can upgrade for \$150.* Current Reflection users call for your special update offer.

1-800-92NETWORK

* Offer good in the U.S. for a limited time only. Add shipping and sales tax where applicable

CIRCLE 127 ON READER CARD

WalkerRicher&Quinn,Inc. ?